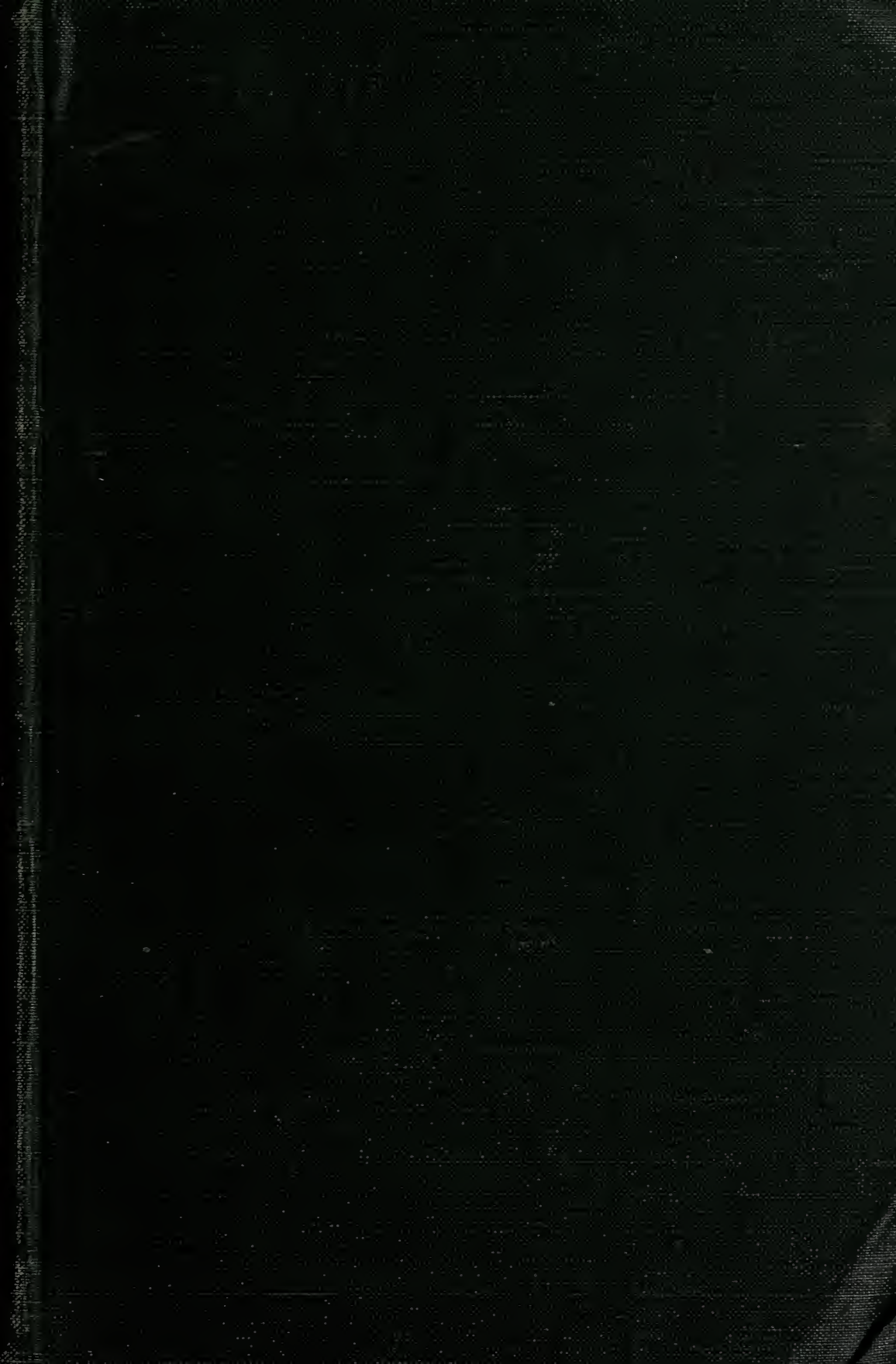


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JANUARY 1, 1913

NO. 1

## Editorial

THIS issue is a beginners' number. We have no doubt some of the veterans may recall some of their early experiences, and it sometimes happens that the beginner discovers a new trick of the trade worth the attention of the veteran.

MR. DOOLITTLE, in this issue, says he would prefer to have long-lived bees for honey-gathering, even if they are not quite so numerous, rather than a populous colony of short-lived ones. This is a fruitful field for discussion. Perhaps some others would like to give their experiences.

### WARM FALL WEATHER CAUSING BEES TO CONSUME THEIR STORES.

IN our Nov. 1st issue, page 679, we reported the shortage of stores in New York. Since then reports have come in from other parts of the country showing that the unusual amount of warm weather in the fall caused the bees to consume a much larger amount of their stores than they ordinarily do at this period. We predict now that many colonies will die of starvation, whether the coming winter be mild or severe. Don't take any thing for granted. Better make an investigation at the first opportunity time, and make sure that there are stores enough.

### A CORRECTION.

BY mistake we credited the picture of the very fine honey exhibit as shown on page 811 of the December 15th issue to Mr. Myers, manager of the Spokane Interstate Fair, whereas it was sent us originally by Mr. F. W. Van De Mark, of Stillwater, Oklahoma, and represents the exhibit of B. F. Bartholomew at the Oklahoma State Fair for 1912. We do not often make blunders of this kind; but we certainly "put our foot in it" on this occasion.

Mr. Van De Mark's letter was duly received; but the photograph he mentioned was delayed in the mails, and did not reach us until about a week later. It so happened

that, when it did come in, the same mail brought the other photograph from Mr. Myers, and these two happened to be close together with Mr. Myers' letter.

The letter of explanation from Mr. Van De Mark, referring to the engraving on page 811, we give herewith:

I enclose a photo of B. F. Bartholomew's exhibit at the Oklahoma State Fair for 1912, just closed. The design in wax, reading "The Home of the Honeybee," and the companion piece at the other side, showing honey-plant with blossoms and bees flying, are all hand-carved work. Few persons will realize the work it has taken on the part of Mr. Bartholomew and his good wife to put this one thousand pounds of honey in glass, mount the honey-plants, and place the exhibit. All of the honey and wax shown is the product of their own bees, and it represents about one-fifth of their honey crop for the year.

Besides the exhibit shown in the picture, there were four others, nearly as good, which speak well for a new State as a honey-producer.

F. W. VAN DE MARK.

The fault is our own in the above instance; but at the same time we wish that our readers, when sending photographs, would take the precaution to write their address plainly on the back of the photograph itself, for the wrappers are often torn or missing altogether, so that it is sometimes difficult to identify each one. In the course of a year we receive a large number of photographs, of which we can use only a small part, and it is of the greatest importance that the addresses of the senders be plainly marked on the back of each, for many times the same mail brings two or more photographs of a similar subject.

### CHARACTER OF MATERIAL USED IN BEGINNERS' NUMBER.

IN this issue, the first of our special numbers for 1913, our readers will observe that we have made no effort to select from the material sent us only such articles as portray the rosier side of beekeeping; in fact, we have selected such articles as bring out the mistakes commonly made by beginners.

Least any beginner reading these pages should be discouraged at the start, and im-

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agine that beekeeping is attended by terrible obstacles, we may say that probably the majority starting with bees, if they make something of a study of one or more textbooks on the subject, the chance for costly mistakes is reduced to a minimum. As we have pointed out on another page, if this were not true there would be few beginners who would not become disgusted and go out of the business at once.

Quite a number of our friends responded too late to our call for material to be used in this beginners' number. It is now becoming necessary for us to have in our hands the manuscript to be used, at least three weeks before date of publication, for our plans have to be laid considerably in advance.

#### WINTERING DOUBLE-WALLED HIVES IN THE CELLAR.

We are trying the experiment of putting some of our colonies, even though in double-walled hives, in the cellar during the coldest part of the winter. Two days ago we put in 100 colonies, taking those from our apiary that were the weakest and the most likely to suffer when severely cold weather should come on. We expect to keep these in the cellar until about March 1; for the stronger colonies will be left outdoors as usual. A year ago we put in the cellar something like 60 or 75 colonies that were somewhat weak, leaving the strongest ones outdoors. The winter, as every one knows, proved to be an extraordinarily severe one. The colonies in the cellar wintered by all odds the best of any we had. We made up our minds that, if another severe winter like the one we had a year ago should come again, we would put nearly all of the bees in the cellar. Fortunately these cold winters come only about once in thirty years.

As a general rule, fair-sized colonies in our locality winter better out of doors than in; hence we shall continue to winter mainly in double-walled hives. In our locality bees have an opportunity for flight on an average of about three or four times in winter.

#### THAT WINTER NEST AGAIN; A RAP AT DR. MILLER.

ON page 6 of this issue our correspondent Mr. J. L. Byer takes a rap at Dr. Miller. We are not sure whether the "rap" was intended for Dr. Miller or for us. If for us we will try to parry the blow. Mr. Byer describes a colony that has combs solid with stores without any winter nest; and he offers the implied challenge that this will not die during winter. We are inclined to agree with him, because if a colony (es-

pecially if a strong one) has combs solid with stores by Nov. 7 they will have a sufficient winter nest by the middle of January, or about the time settled cold weather comes on. We do not remember what Dr. Miller may have claimed; but our contention is that every colony of bees, if given an opportunity, will form a winter nest or have one before severe cold sets in. This seems to be in accordance with their natural instinct; for when severe weather comes on it is better for one cluster of bees to be separated by only the thin midribs of the combs than by a solid wall of stores one inch thick. In the former case the cluster is practically homogeneous. In the latter it is broken up by cold slabs of stores one inch thick. They can't warm up these slabs because they project beyond the cluster where it is cold. These cold projections convey the cold back to the cluster. Now, Dr. Miller, it is up to you to give Mr. Byer another jab if you think he needs it.

#### BEES TRAIL HONEY-THIEVES.

THE following clipping from the *Saturday Blade*, of Chicago, was called to our attention by one of our subscribers, G. F. Jones, Galax, Va.

STERLING, COL., Oct. 24.—When J. M. Cornelius, a honey-producer near Sterling, awoke the other morning he found that in the night fifteen beehives had been looted of fifty pounds of honey. He followed the dispossessed bees to the home of two brothers, living a mile away. There he found the bees swarming about the house, while the brothers, besieged, had shut the door and windows and were afraid to go out. Cornelius swore out warrants for the arrest of the men. They admitted the theft.

When bees show traces of sentiment the tendency can generally be explained in another way. For instance, recalling the old belief that bees would follow the coffin of their owner to the grave, we know that, in the rare instances where they did so, it was because the odor of the fresh varnish used on the newly made coffin attracted the bees by its resemblance to propolis. And in the above case, while the bees apparently exhibited some of the detective ability of Sherlock Holmes, it is plain that the thieves, not knowing that bees during a time of honey dearth are *also* keen for robbing, did not take the necessary pains to prevent dropping some honey from the broken combs along the way. The bees, of course, immediately found this, and were busy in carrying it back to their hives.

Bees are truly wonderful creatures, but they get a great deal of credit that does not rightly belong to them. We often hear of their affectionate natures—how they mourn when their owner dies, or how they know the one handling them so that they do not sting him, etc.; but there are enough won-



ders in the life of the busy bee without going so far into the realms of imagination.

#### ADULTERATION AND MISBRANDING OF FIG AND HONEY CAKES.

FOR over a year we have been looking over the special leaflets sent out by the United States Department of Agriculture with a view of noticing in these columns any case of adulteration or misbranding, of interest to beekeepers. However, though we have found one or two, foods said to contain honey seem to be seldom adulterated. It is very encouraging that one of the results of the pure-food law, unscrupulous dealers are getting tired of trying to substitute glucose or other cheap sweets for honey.

The last instance that has come under our notice has been that of the adulteration and misbranding of fig and honey cakes. We give here the full history of the case as given in the leaflet, as it serves to illustrate just how Uncle Sam goes at a thing of this kind.

On May 23, 1912, the United States Attorney for the District of New Jersey, acting upon a report of the Secretary of Agriculture, filed in the District Court of the United States for said district an information against A. A. Strohecker, Trenton, N. J., alleging shipment by said defendant, in violation of the Foods and Drugs Act, on August 16, 1911, from the State of New Jersey into the State of New York, of a consignment of the product known as fig and honey cakes which were adulterated and misbranded. The product was labeled: "Fig & Honey 19 S. Lipowicz, Buffalo, N. Y." (Guananty stamped on side of box): "U. S. Serial No. 2751. Guaranteed under Food and Drugs Act June 30, 1906."

Analysis of a sample of the product by the Bureau of Chemistry of this Department showed the following results: Reducing sugars as invert before inversion, 39.89 per cent; commercial glucose, 37.91 per cent; polarization direct at 21 degrees C., 58.6; polarization invert at 21 degrees C., 58; polarization invert at 87 degrees C., 61.8; weight, 17.125 pounds; shortage (marked and sold for 19 pounds), 9.87 per cent. Adulteration was alleged in the information for the reason that the product being an article for food contained a substance, to wit, commercial glucose, which had been substituted in part for the product. Misbranding was alleged for the reason that the statement on each of the boxes containing the product, to wit, "Fig & Honey 19," would mislead and deceive the purchaser into the belief that the product consisted of fig and honey cakes, and that the contents of each package weighed 19 pounds, whereas in truth and in fact the product contained a substance, to wit, commercial glucose, which had been substituted in part for said product, the presence of which was not declared upon the label, and had been substituted in part for the genuine article, and the contents of each box weighed less than 19 pounds, to wit, 17½ pounds; and further, in that the statement "Guaranteed under the Food and Drugs Act, June 30, 1906," borne on the package created the impression that the product was guaranteed by the United States to be pure, whereas such was not the fact; and further, in that the product was in package form, and the contents were stated in terms of weight to be 19 pounds, and were not correctly stated on the outside of the package, that is to say, the contents of each of said packages weighed only 17½ pounds and not 19 pounds, as labeled.

On May 27, 1912, the defendant entered a plea of guilty, and the court imposed a fine of \$50.

W. M. HAYS, Acting Secretary of Agriculture.  
Washington, D. C., August 13, 1912.

#### FEEDING COLONIES SLABS OF HARD CANDY OR MOIST SUGAR DURING THE WINTER IN LIEU OF ORDINARY SEALED STORES IN THE COMBS.

ELSEWHERE in this department reference is made to the fact that the beautiful fall weather we have been having throughout the northern States, and the comparatively mild winter weather, will have a tendency to cause the bees to use up their stores more rapidly than they otherwise would. In some of our own apiaries we find colonies a little lighter than we feel is safe. We are making up a hundred slabs of hard candy. The hot candy when "done enough" is poured into paper pie-dishes, such as one can purchase at any of the groceries for 40 to 50 cts. a hundred. When cold, these pie-dishes will be inverted and placed directly over the clusters that appear to have an insufficient supply of stores.

Mr. A. C. Miller recently made the statement that coffee A sugar (a moist sugar) can be given to the bees direct. The advantage of it is that it is ready without any special preparation. We have never tried it, but see no reason why it should not be an excellent food. Two or three cross-cleats laid on top of a dish of it will provide an empty space between the cushion and the dish of sugar for a clustering space. The recipe for making hard candy for bees is as follows:

#### HARD CANDY FOR WINTER AND SPRING FEEDING; HOW TO MAKE IT.

Into a dish of hot water on the stove slowly pour an equal amount of sugar, stirring constantly. Make sure that the sugar is all dissolved before boiling commences. If this precaution is not observed, some of the undissolved sugar is likely to burn, injuring the flavor of the candy and almost surely causing trouble with the bees later. If you have a candy thermometer, watch the temperature, and do not let it go above 275 to 280 degrees. Test frequently by dropping a very little of the syrup into cold water (about 50 to 55 degrees F.). When the boiling has continued long enough the drop of candy, when cooled in the water, should be hard and brittle when taken out; but when placed in the mouth it should soften slightly, so that it is tough. When this time has arrived, pour the syrup immediately.

The color of the candy when cold should be about that of light basswood honey. If it is darkened very much it is scorched and unfit for the bees. To prevent the scorching, reduce the fire toward the last so that the syrup will boil but slowly.

When the candy is first made, it is hard and glassy, and perfectly transparent; but after it stands for a little time it becomes somewhat watery and crystalline; but this is all the better so far as the bees are concerned, for they are enabled to take it more easily.

In regard to hard candy we may say that A. I. Root, years ago, wintered a number of his colonies on it when the bees had nothing but dry combs. We apprehend there will be a good many of our subscribers who, if they will look through their colonies, will find some that are so low that there will be danger of their starving before spring unless fed candy or sugar.

## Stray Straws

DR. C. C. MILLER, Marengo, Ill.

LIGHT in cellar works in Marengo just as in Borodino, p. 795. As a postscript it might be added that, when bees are in best condition, they will stand a good deal of light; if in bad condition, light is bad.

A GOOD strain of Italians will not lay above the brood-nest, p. 798. May be not, Major Shallard, in Australia, where every thing stands on its head; but in this country the better the queen the more likely to lay above if crowded below.

PFARRER STRAEULI thus treats a swarm: He puts two frames of foundation in the center of the brood-chamber; places on it an excluder, and over this a story with empty combs and some honey, into which he puts the swarm. In no case has the swarm reissued.—*Deutsche Bzcht.*

G. M. DOOLITTLE, I had a good laugh over your trousers standing alone starched with honey, p. 795. I dislike honey on my hands exceedingly; but if I had no water, before using my trousers I'd scour the honey off my hands with earth. "Dirty?" Well, however it may look, soil does not feel so dirty as honey.

BEES should have a larger entrance in winter than in summer, p. 799. That depends, friend Johnson. In this region, bees can hardly have too large an entrance in hot weather. Same in winter, if cellared. But outdoors they would hardly stand in winter to have so large an entrance as my bees have in summer.

CONTRACTING the brood-chamber for winter is advocated because it makes less room for the bees to keep warm in winter. The editor of *Deutsche Bzcht.* says, p. 143, that nothing could be more absurd, since for best wintering the bees must cluster in a sphere, and in too small a chamber there is not room for this. [The editor of *Deutsche Bienenzeitung* is evidently laboring under a misapprehension as to the amount of contraction that is ordinarily practiced in this country. No full colony is ever contracted down to less than five or six frames wide. Such space would give a strong colony all the clustering room it could possibly require. In fact, we have seen powerful colonies contract into a ball during cold weather nearly as small as a doubled fist. Even a three-frame space would accommodate such a cluster, and of course a five or six frame space would be ample.—Ed.]

YOU fellows who have never had any but modern extractors don't know how blest you are. In bygone years, when I produced extracted honey, I had a Peabody ex-

tractor, the pioneer extractor, with can and all revolving. This year, by means of a certain editor who is urging the production of comb honey, I got an up-to-date four-frame extractor, too late for any thing else except to extract a lot of unfinished sections; but, oh the delight it was to extract them! Before the extractor came I had studied just how I would manage in lifting and reversing the frames to have as little drip as possible, for the most unpleasant thing in former years had been the messy drip when frames were lifted out. To my surprise, when I now lifted out the frames there was no drip! I could hardly believe my eyes. And the delightful ease of turning the crank, compared with the former stooping over to revolve the whole machine! I can hardly wait to use that extractor next year, unless the good Lord has something better for me to do before that time. [We hope the good Lord will spare you the pleasure of trying out a modern equipment for taking extracted honey.—Ed.]

JOS. KOCH, *Schweiz. Bztg.*, 310, reports a queen, born in the early summer of 1906, still vigorous and doing good work in 1912. He is sure there can be no mistake as to her age, for she was marked red, and he has marked no queen since with that color. She is of the "Nigra" stock, and was sent to a mating station for pure fertilization. [This is a very remarkable instance of longevity. Had not Mr. Koch marked the queen red we should have said he was surely mistaken. The ordinary superscedure takes place so quietly that in most cases the apiarist never gets any knowledge of it; and when he does see the new queen mother, she often looks so much like the old one that she passes for her.]

But we do not know any way of marking a queen red so that the coloring would not come off in the lapse of six years. If Mr. Koch or anybody else can tell us how to do this with some coloring matter that will not be injurious, he will be conferring a favor on beekeepers generally. As a general rule, however, queens are distinguished by the manner of clipping their wings, either on the left or right side, and by angle cuts. For example, a square-off cut on the left side could indicate 1912; and an angle cut (one each way) could be made to indicate 1913 and 1914. Similar markings on the right side could represent three years more, which certainly would be long enough for at least 99 per cent of all queens.—Ed.]



# Beekeeping in California

P. C. CHADWICK, Redlands, Cal.

Owing to the demand for space, I will for the present at least discontinue the writing of my summer trip. I find many things of which I wish to write that will be of more interest to my readers, though there is much yet to be said of conditions and beekeepers as I found them on my trip that will be given when the time seems opportune.

\* \* \*

## LIGHT-AMBER SAGE (?)

In market quotations, Nov. 15, Hamilton & Menderson, of Los Angeles, quote "Light-amber sage." It is my opinion that this is stretching a point. If a producer attempted to sell light amber to this firm as sage they would no doubt fail, and properly so, for there is no such grade in sage honey, and no one knows it better than Hamilton & Menderson. The world produces no better honey than the true sage, which, in its purity, is *white*; but when containing a quantity of other kinds sufficient to put it in the light-amber class it should no longer be called sage.

Any attempt to lower the reputation of sage honey by selling other kinds as "light-amber sage" should be resented by those who take pride in producing the true article, and by those who expect to obtain a fancy price on the merits of its color and quality as well as its world-wide reputation.

\* \* \*

## SMALL ENTRANCES ALLOW MORE BEES TO WORK IN THE FIELD.

Dr. Miller, Nov. 1, p. 682, I believe the preference of bees for small entrances proves they are best for me, for the reason that what is best for them is best for me. The present agitation for large entrances I believe is not based on sufficient advantages to offset the disadvantages. There are several conditions to be taken into consideration in the discussion of this question. The first object should be to ascertain which will secure the greatest economy in hive service of the bee. The larger the entrance, the greater the number of bees required to guard it; and the ability of the bees to preserve their own heat is much reduced, requiring a greater number in the cluster on the combs for that purpose, thus again reducing the field force which would otherwise be available. These are two good reasons why a small entrance is preferable to a large one, and I believe them sufficient in themselves, though there are others well worth attention. I will admit that a hive booming full of bees can preserve sufficient warmth, regardless of a very large entrance, to build

up rapidly in the spring; but it is accomplished because there are sufficient bees to fill the outer edges of the space between the combs, thus keeping out the cold air with sheer bee force.

Supposing, however, we reduce the entrance to the actual size needed to allow free entrance and exit. In that case there will be a thinning of bees in those spaces, and a much greater force ready to take up the duties of the field.

In the spring of each year, when invoicing my stock of bees and ascertaining their condition, I often find it desirable to transfer a very small colony to a five-frame hive, because in this size of hive they are able to protect themselves better with fewer bees, and to preserve all the warmth they produce, thus enabling the queen to lay over a greater area of comb space than could possibly be kept warm in a ten-frame hive, especially with a large entrance. I am told that a large entrance will prevent or at least delay swarming. True, simply because it not only requires a greater number of bees to preserve the heat of the hive, but a greater number must remain for that duty when the swarm issues, thus requiring a longer period of breeding to reach the necessary strength, and a slower process because they are not able to protect their brood over so large an area where the entrance is allowing the admission of such a quantity of cold air.

Here is also the secret of an eight-frame hive for comb honey. Warmth is more easily preserved, and, in consequence, breeding is more rapid, thus filling the hive much sooner, enabling the bees to pass on up to the super, and there again to develop a sufficient amount of heat to make waxworking practical.

It is well known that bees generate much heat when evaporating nectar for extracting colonies. I have often found it desirable, when nectar was coming in freely, to increase the amount of comb space rather than entrance space. In very hot weather there may be a period when it would be desirable to give more ventilation; but in this climate there are indeed very few nights when they do not find it more comfortable in the hive, out of the cold air.

While we are furnishing the habitation, let us do so with an eye single to efficiency as well as economy in hive service, or else not blame the bees for doing some unavoidable loafing about the hive in order to protect their own welfare.

# Notes from Canada

J. L. BYER, Mt. Joy, Ont.

## FLAVOR VS. COLOR.

Regarding the matter of choice in taste of honey being one of color or flavor I can agree with Dr. Miller that, if dark honey tasted all right, more would like it. White honey is preferred by the majority as a matter of taste, and yet taste can be cultivated to a certain extent. Who ever liked his first olive? And yet many, including the writer, are very fond of them. In our home at the present we have splendid honey of both basswood and clover; yet for a change we are using once in a while some buckwheat granulated honey of a very smooth texture. Formerly we could eat none of it at all; but we have learned to like the taste. Yet as a "stayer" we all like the white honey best, and I suppose this will be the case for all time with the majority, no matter how much we may boom our buckwheat.

\* \* \*

## THE ONTARIO CONVENTION.

The Ontario Beekeepers' convention, held in Toronto Nov. 13, 14, and 15, was a success in the matter of attendance, interest, and good fellowship, and in all of these respects it possibly eclipsed all past meetings of the association. A number of our cousins from "over the line" graced the meeting with their attendance—something that was appreciated very much indeed by us Canucks, and we hope that they all enjoyed their short sojourn with us. In some future issue I hope to give some of the best thoughts of the meeting, after I have had time to digest somewhat the great amount of good things received while there. Officers for next season are practically the same as for last year, with the exception that Mr. Pettit assumes full responsibility as Secretary instead of Mr. Hodgetts, who was relieved on account of having so much work along other lines. Mr. Denis Nolan, of Newton Robinson, is again President. All communications in connection with the association work should be sent to Morley Pettit, O. A. C., Guelph, Ont.

\* \* \*

On Wednesday and Thursday, Nov. 21 and 22, the bees had a splendid flight; and on Friday, the 23d, those at the east yard, 200 miles from home, were all put into the caves at that place. Conditions have been thus ideal for cellar wintering in so far as the start in the game is concerned; and with a normal season from now on, the bees wintering inside should come through in good order. At the home apiaries, all the bees had a good flight on the days mention-

ed; and since then up to the present time, Dec. 5, we have had no cold weather to speak of. To-day Mrs. Byer brought in a splendid bunch of pansies; so readers of GLEANINGS may know that we have had a very mild fall here in Ontario.

I might say that, just two days after the bees at the east yard were put inside, about two feet of snow fell. Certainly these bees went just at the right time. Here at home we had only enough snow to cover the ground, and it soon went away. As the weather has been quite mild, no doubt the most of the snow has disappeared out east too; but for all that, if the bees had been caught in a big snowfall the hives would have been in bad condition to carry inside.

\* \* \*

With no desire to start a controversy over a matter that has been pretty well thrashed out in the past, I can not refrain from telling Dr. Miller of an experiment I am trying. Some time ago our good friend stated that if a colony of bees had *solid* combs of honey with no clustering space except the spaces between the combs, said colony would *die* during a prolonged cold spell. Without taking the trouble to look up the matter referred to, I believe that the doctor will remember the circumstances in connection with the discussion when he made the statement. During the last week in October a very strong colony in a regular Danzenbaker hive was fed all the bees it would take into the brood-nest. I might say that the colony is so strong that it was with difficulty the bees could get in the hive after the supers were taken off; in fact, during the coldest weather we have had yet, the bees are snug in every corner of the hive, although no packing is over them yet, all the covering over the frames being a quilt and roof above. Nov. 7 a feeder was again put on the hive, and they have carried down food until every cell must be filled, as they refuse to take any more, and start to build comb in the opening of the feeder. Now, these frames are spaced but 1 $\frac{3}{8}$  inches apart; and with solid frames of stores in the middle of November what will the bees do for a "winter nest" during the weeks and weeks of cold zero weather that we are pretty sure to have before spring—the colony being wintered on a summer stand, packed in a rough case? Will they die? If the writer is alive next spring, he will report, and in the meantime he will lose no sleep over the fate of that abused colony.



# Beekeeping Among the Rockies

WESLEY FOSTER, Boulder, Colo.

Brother A. C. Miller, let's have a game of chess with your apiary-record system on page 666, Oct. 15. The ordinary beekeeper with 300 colonies or more will not have the patience to master your method. First you will have to educate him to feel the need of a book-record system; then you will have to give him a thorough course in hieroglyphics. You have laid plans for a 200-colony apiary, and I doubt whether a beekeeper can be prevailed upon to use it if he has that many colonies.

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## LESS ALFALFA BEING GROWN.

With the gradual development of the West from a stock-growing, cattle-feeding country to a general farming and fruit-growing section, less alfalfa is being grown. Alfalfa is being plowed up to make place for sugar beets, potatoes, onions, and apple and peach orchards. With this development comes a closer and more intensive cultivation. The fence-corners and ditch-banks are kept free from sweet clover, and the roadsides are pastured by the farmers' cattle. Dandelions, sunflowers, and the resinweed produce very inferior honey, and the bees store large quantities of these honeys when the range for alfalfa and sweet clover is limited. These things account for the poorer quality and smaller quantity of honey produced in some of the regions of the West.

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## AFFILIATION OF BEEKEEPERS' ASSOCIATIONS.

The local and county association has a work to do that the State association can not do. The latter has work that neither the local nor the National Association can do. The National has work to do that neither the local nor the State associations can do. The problem before the beekeepers is, how to get all local, State, and national associations affiliated where each will help and be an aid to the other. If being affiliated with a State association draws strength from the local association, success is not permanent, and either the local goes down or the local withdraws from the larger association. At the present time there are three local associations in Colorado, none of which are affiliated with the State association. Several members in each local are members of the State association, and that is as far as it goes. The local association does not seem to be able to survive unless there is some financial gain to be had. This financial gain is secured through ordering

supplies in a body. Shipping honey together is also done on a limited basis. The fraternal association solely is going; and if local, State, and the national can be united on a business basis with the fraternal part on the side we can expect a larger degree of success all along the line.

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## STARTING ON A LARGE SCALE.

The beginner can start more varied trains of thought on beekeeping than a seasoned veteran would think of in several days. The veteran has mastered and forgotten so many things that the beginner asks about that a writer can not do better than to talk with some beginner in order to get original subjects for his writing.

The proverbial advice to beginners is, to start with a very few colonies and build up. That is all very well; but I have seen the beginners start with a hundred colonies, and make a success from the start. It depends on the man. A farmer or other rural worker who has had experience with farming, gardening, fruit-growing, etc., and has made a success at these, can begin with bees and make a success without the long tedious building-up from one or two hives. The trouble with the beginner is that he is so enthusiastic that he goes through his one or two hives every day or two, and worries them to death, or at least he secures only a partial crop. The man with more colonies will not have the time to open his hives so often, and will confine his operations more to preparing supers, arranging the apiary, taking honey, handling increase, etc. The beginner will probably have a lot of experience hiving swarms the first year; and when he runs up against difficulties he will seek out the experienced man for advice or will hunt up the points desired in the bee-journals or bee-books. I would disabuse the beginner of the thought that, because a man is making his sole living from bees, he is a master beekeeper. His success may be largely due to a favorable location. I have known men who have done well with bees for a term of years, and then when foul brood or poor seasons came they lost out completely. Beekeeping is pleasant work, and should yield as satisfactory returns as any other rural pursuit.

The field is open, and much money is not required, and I hope that we may have a good number of eager beginners added to our ranks during the coming year.

## Conversations with Doolittle

At Borodino, New York.

### PROLIFICNESS OF QUEENS VS. LONGEVITY OF BEES.

"As I am a comparative beginner, and much interested in the improvement of bees, will you not write something for your department regarding prolific queens, for my queens are disappointing in this respect?"

"I am aware that a hive full of brood at the right time of the year is a sight that entrances any apiarist; therefore prolificness in queens is something almost invariably desired, and that especially by beginners. I remember well when I used to read with wide-open eyes and mouth about certain queens being able to keep ten Langstroth frames full of brood for weeks and even months at a time. As I had few, if any, of which this could be said, I often thought the bees I had were not what they should be, which led me to buy queens of those claiming to have the most prolific strain in the world, but they were not much better.

"At our bee conventions a third of a century ago, in summing up the desirable qualities of any race of bees, or of a queen, prolificness was the quality almost always put at the head of the list. But some of us have changed our minds considerably since then, and consider that there are other points of more importance than great prolificness. Some have even asserted that great prolificness is often at the expense of other desirable qualities. There are few beekeepers who have not had it impressed upon them that it is not always the most prolific colony that gives the most surplus.

"I now consider quality in bees more to be desired than prolificness, for the more bees of poor quality one has the worse off he is. Some of our older heads are prone to stick to the ideas of half a century ago; but there are few classes of men more anxious to adopt progressive ideas and methods than are apiarists. But, no matter what our ideas, the fact remains that the colony of bees which gathers the largest surplus during each season, and consumes the smallest amount of this surplus in maintaining a good healthy existence between and after the honey-flows, is the most profitable one, and therefore the one to breed from. And in order to set to work intelligently for the improvement of stock to the highest standard of excellence, it is necessary to know the qualities which stand first in the make-up for first-class honey-gatherers.

"About twenty years ago there were daughters of a certain queen in my apiary whose bees forged ahead of the rest of the

colonies; but repeated examinations showed that these queens were hardly up to the average as brood-producers. In fact, with the exception of one or two, six Langstroth frames were the highest amount of brood any of these gave. And I began to study on this to find out the reason. I got up early in the morning, mistrusting that I would find them out at work while the colonies with a greater amount of brood and bees were asleep; but they did not get out earlier in the morning, nor seem to do a rushing business at any time, but just plodded away with a steady pull all day, with no seeming advantage along this line above the other colonies in the apiary; and this, not for one week, one month, nor one year; but a continual keeping ahead as regards the surplus produced, with fewer bees and no longer hours of work. Six frames of their brood seemed to give just as good results as eight or nine of other queens. This seemed unaccountable to me till one August a change of queens was necessary in one of the hives. As the new queen gave bees of a somewhat different color, and change solved the mystery, for I found many bees from the original queen busily at work bringing in honey clear up to the last of the following June. The longevity of these bees saved the labor, the honey, and the pollen necessary to rear two or three extra frames of brood reared by the more prolific queens, and this saving served to lengthen their time of service as field workers. Then I found that for out-apiary work, the small amount of brood for the size of the hive (I use a ten-frame Langstroth hive at the out-apiary) tended to discourage swarming. This was a gain of much value. Then less heat was required to rear a smaller amount of brood in early spring, and all tended toward longer life, which longer life gave the increased yield of surplus, and at less expense of bee force.

"After having found out some of the qualities, at least, which made for first-class honey-gatherers, I then set about working along the line of getting these queens in a way of putting the maximum number of bees on the stage of action at the time of the honey-flow or flows as they came in this locality, and only a sufficient number at all other times for a good healthy existence, as I have told the readers of the bee papers once or twice before. And this last is not by any means the least, for herein lies one of the greatest gains possible to make along the line of the improvement of any race."



## General Correspondence

### EXPERIENCES AND MISTAKES OF BEGINNERS

BY J. L. BYER

In glancing over the subjects outlined on the inside of the front cover of GLEANINGS for Dec. 1, the one in connection with mistakes and experiences of beginners struck me most forcibly. While not a beginner any more in the strict sense of the word (yet after all it seems but a short time since I was struggling to get enough bees to make a living) there are as yet no *veteran* feelings in my own mind; and as for experiences, naturally I have had the usual amount that come to the lot of anybody who starts in any business with no capital and with a family to support.

My first bees were bought on credit, but were not taken on those terms until earnestly requested to do so by the friend who had them for sale. My note for 12 months was given, and the bees were moved in November. They were in single-walled hives when bought, and after that date I transferred them into packed hives I had made, lifting the combs out two by two from one hive to another. Any one familiar with our climate knows that transferring bees in November here in Ontario is not good policy, but in this case luck favored me, and they wintered all right. The crop was good that season, and I paid for the bees, and had a bit of cash left. This was, of course, "experience;" but I am at a loss to say whether I would consider it a "mistake" for a person situated as I was to go in debt for bees or not. Certainly it is at best a risky way of starting. Just here I might state the promise of the man, that, in case I could not meet the note when due, he would not sue me any way. While he was perfectly honest in this assurance, I suspect it would have done him little good to take such a step, as it "is hard to get blood out of a turnip," as the old saying goes, and so just as useless to try to get money from a man who has none.

In looking back over the past few years I note many things that have been done that seem now to have been "mistakes," and yet under the circumstances I am led to wonder whether some of these "mistakes" could have been avoided. With only a few bees, it was impossible to think of making a living for the family, and of course the thing that came to my mind as a solution of the problem was in line with the advice of our departed friend Hutchinson, "Keep more bees."

With practically no capital, it was im-

possible for me to discriminate in the matter of hives, etc.; and, as a result, bees were bought anywhere I could get them, and in all kind of hives. This proceeding naturally gave and is giving me lots of "experience," and to the minds of most men it will no doubt be classed as a "mistake;" yet if placed in the same position again, I no doubt would do just as I did before, with some modifications learned by hard experience of the past. It certainly is, under ordinary conditions, a great mistake to have a number of different sizes of hives; but under exceptional conditions there is license for almost any thing, and the position I was in called for radical methods if I was going to keep on top.

During the time I was buying up bees here and there, many more colonies were kept by farmers than is now the case, and I soon learned that I could profitably buy first swarms, when they were offered to me, at about \$1.00 each. Many a night have I driven six or eight miles after a hard day's work on the farm, in order to bring home two or three colonies from some man to whom I had taken empty hives earlier in the season. I remember in particular a farmer friend who complained bitterly because his bees threw out so many after-swarms; and to help him out I told him to hive the first swarms on the old stands *a la* Heddon, and after six days move the old stock to a distant corner of the apiary. After a week or two he sent word to me to come and get the swarms he had hived for me; and, imagine my surprise to find the said swarms with all foundation drawn out, and the bees hanging outside the entrance in great clusters! He remarked, "I fixed the beggars this time so that they would not swarm the second time." He had followed my advice in the matter all right; but little did I suspect that I was going to profit by it at the time. As the man in question seldom tried to get any honey from his bees, my conscience did not bother me any, and I took the bees home, getting about 100 pounds of clover honey from each. This little episode gave me "experience" all right; and even up to the present I can not admit that there was any mistake so far as I was concerned.

About this time I contracted a disease that I am afraid has become chronic—namely, a desire to talk in the journals as well as face to face with people. Accordingly an article was sent to GLEANINGS in which I told of the advantages of big hives, incidentally mixing in some other twaddle as

well. Being more bashful than at the present time, my name was signed "Jack Canuck, Hoodstown, Ont." Hoodstown was the name of a postoffice in the north that I visited once, but which I knew was closed up at the time of writing. I was rather surprised to see the article printed, and to note that friend E. R. had appended a nice friendly footnote to the same. This made me bolder, and I immediately sent another article and received the surprise of my life when I got a letter from the publishers with a "credit note" enclosed. Doubtless poor Jack Canuck, of Hoodstown, had received a "credit note" also, and this on my part was a "mistake," and I have never since signed any name but my own, for fear some "credit note" might go astray.

To beginners in beekeeping, let me say that the habit of getting mixed up in the journals is very hard to "get cured off" when once contracted; so my advice is, never start it if you want to be saved a lot of work and the trouble of answering a pile of correspondence. Of course, if you have no objections to the things mentioned, go ahead, and probably you will get a lot of fun for your trouble, to say nothing of the bit of "pin money" that comes with it as a consoling reward.

The question will naturally be asked how foul brood was avoided when I bought bees in so many places. I was fully alive to the danger of this pest; and as I had never seen a case of foul brood I got in touch with friend McEvoy, and he sent me word when he was going to visit an infected apiary about 25 miles from my home. I made the journey of some 50 miles all told, and I think it paid me well, for from that time it has been no trouble for me to tell the disease at a glance—a cell of foul brood looking much like a blot of ink on a sheet of paper, if I dare make such a comparison. American foul brood has distinctive characteristics that can not be mistaken to the practiced eye, and I have often wondered at hearing some say that they could not learn to detect it. One thing is certain: The beginner to-day must learn to know bee diseases if he wishes to stay on the job. The trip I have mentioned was worth much to me, for shortly after that time I bought some bees at a sale and found they were diseased. They were promptly cleaned up; and although I have twice since that time bought it again (once knowingly, so as to avoid the bees being scattered all over the country), never have I had any difficulty in cleaning up; and at the present, in so far as I know, there is none in any of my yards.

After getting about 100 colonies in two yards, I had rather severe winter losses, and I came to the conclusion that this matter had to be solved if I wished to make a living out of bees. Diagnosing the dead colonies in the spring, I always found that the bees had either starved outright or else part of the cluster had run out of stores, the rest of the bees usually perishing later on in the spring from dysentery. I used to read about giving 25 or 30 pounds of stores for wintering; but gradually I learned that, for outdoor wintering, at least in our climate, it is necessary to have more than that amount, and that, generally speaking, it is a mistake to have a lot of unsealed pollen in the center of the brood-nest for the bees to cluster on.

I visited some of our most successful winterers, and came away with the idea that their success was not due to any particular kind of hive, packing, location, or other minor factors, but simply because they gave their bees abundance of good stores. After a number of years' "experience" with many "mistakes" made in the mean time, I have never changed that view, and upon that main principle rests the success of good wintering, all other factors mentioned such as hives, packing, etc., being mere incidentals. To the beginner I would urge due attention to this matter, especially if living in a cold climate, otherwise he will not only have unpleasant and unprofitable "experience," but in the end will have to pronounce his beekeeping career as a huge "mistake."

When taking a retrospective view like this, many events come to one's mind which, while interesting to the parties directly concerned, are not so to readers in general, so I will close this random article, but I wish to add that, with all my varied ups and downs in the struggle to make a living from bees, never once have I regretted my choice of a life vocation; and while we have not made so much money, the friends and associations formed during the time our work has been going on are valued far above monetary considerations. The help received so ungrudgingly from many friends in the past in the way of advice, etc., is remembered with pleasure, and it is always a source of pleasure for me to help others struggling along, when it is in my power to do so. Never once do I recall asking for any favor from a beekeeper but that it was granted in a spirit showing that the help was given freely. Last, but not least, the best help I have had in the matter of attaining any little success in life that has come our way is the company of a *good wife*; and let me say that every beginner



needs this "experience," otherwise his life is apt to be pretty much a series of big "mistakes."

Mount Joy, Ontario, Canada.

## AN EXPERIENCE WITH BLACK BEES

### A Fight with Hornets

BY OSCAR L. GOSSET

The latter part of June I found a small swarm of black bees hanging on a bush in the pasture. As I did not have a hive I made a box of nice clean lumber. The boards were 12 inches wide, and I cut them so as to make a box 12 inches wide, 12 in height, and 24 long. I hived the bees; and, although it was a small swarm, the colony went right to work. I left the bees under the bush where I had hived them, for about one week.

It happened that the hive was placed near a ditch; and in case of a hard storm the water might have risen and washed away the hive.

One evening, about ten o'clock, there were indications of an approaching thunder shower. The bees were my first thought. As it was so late in the evening, I knew that they would all be in the hive, and I thought it would be a good time to move them near the house, a distance of about sixty rods from where the hive was then located. I set the hive down not far from the house, where I could watch the bees. A day or two after I had moved them I found very few bees in the hive; so I went back to the pasture to the spot where the hive had been, and found most of the swarm clustered on a branch of the same bush on which I had first found them.

I returned home, made another small box, went back, and shook the bees from the branch in front of the box, and they all went in. That evening after sunset I brought the box with the bees to the house and emptied them in front of the first box. They all went in; and as they had made quite a large piece of comb in the first box I thought they would soon stay there. The next day I discovered that a few of the bees had returned to the bush in the pasture. I managed to get them into the box, and took them home in the evening, emptying them in front of the hive as before. The next day the bees were working well.

I noticed, about the middle of August, that the colony was not increasing very much. A few drones had hatched. I also noticed that the bees did not have a very large amount of honey, so I ordered a

Boardman feeder and proceeded to feed them. They had carried in about one quart of the syrup from the jar when one day I noticed some black hornets near the entrance, fighting the bees. The bees were out on guard as if attacked by robbers. I killed about a dozen of the hornets; and as there were no more in sight I stood watching the hive. A bee came out with a young bee which seemed to be dead, for it showed no life when I picked it up from the entrance where the bee dropped it. It looked as though it had been cut from the cell before time for it to come out, as its wings were shriveled.

A day or two after this I took a look at my bees. As I approached the hive I saw no bees flying; so I raised the hive, but found only about half a dozen dead bees lying on the bottom-board, and about half a dozen hornets sucking the comb in the hive. The honey and syrup that I had fed the bees had been all carried away, for the combs were almost dry. There was a little brood in one of the combs. Now, did those hornets chase the bees out of the hive and rob them? or did a strong colony of bees rob my bees? There were no other bees nearer than half a mile.

Maiden Rock, Wis., Sept. 24.

[Your principal mistake was in moving the colony after it had once been located and the bees had marked their location. Carrying a hive away in this manner without taking any precaution to make the bees mark their new location will always result in weakening the colony greatly, for the bees will keep attempting to go back to the old location, and many of them will be lost.

Undoubtedly the hornets bothered the bees considerably; but we think the chief trouble was that the colony was so small that the bees became discouraged. They may have left the hive in a body because the conditions were abnormal, or, as you suggest, the bees of some other colony might have completely robbed them out, so that they abandoned the hive because there was practically no honey left.

It is expensive business attempting to nurse a weak colony. We presume that beginners have more trouble because of having their colonies too weak than from any other source.—ED.]

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I raised 100 daughters from a fine breeding queen which I bought last spring. I hope she will live another year. I have 200 colonies, and have handled bees for many years, but they are the *first* bees I ever saw that wouldn't sting. I handle them without smoke.

Freewater, Ore., Nov. 16.

C. A. McCARTY.

## A BEGINNER'S EXPERIENCE

BY B. KEEP

Like so many others, I began beekeeping by chance. My good wife often suggested how nice it would be to have some bees; but after reading "Quinby's New Beekeeping" I could not bring myself to the point of assuming the responsibility and risk. After eleven years on the new place, chance put it upon me, and, presto! shortly I became devoted to bees, and I could not get enough.

A small swarm discovered near the close of a drizzly Sunday in May was the germ; and the trifling knowledge gained years before from Quinby enabled me to get the bees into a small box, and to place it where the colony was to remain. We often talk of that first experience, remembering with amusement the excitement caused by the discovery, and the subsequent hustling for a box, some kind of veil, and a pair of thick winter gloves; then all hands standing at a respectful distance holding breath until "the trick was turned." I would not forget it if I could. So much interest has not been bestowed on any bees since that first swarm. It was a common occurrence to find some member of the family standing or seated near the hive intently watching the bees go and come, and often all were gathered there discussing the mystery of the hive and the possibility of honey from our own bees. I was thoroughly captivated. The responsibility and risk sat far more lightly upon me than I had supposed, and no nightmares with bees in any form troubled my repose.

I determined to learn all that books and periodicals had to offer, and to be as far as possible a scientific beekeeper. To that end I got a copy of the latest A B C and X Y Z, and devoted all spare time and evenings to the reading and rereading of every subject. In fact, I made a study of it. There was a fascination about every thing. Then I branched out into Langstroth, Miller, Alexander, Doolittle, Townsend, and Cowan, and devoured GLEANINGS, the *American Bee Journal*, and *Review*, not to mention all the pamphlets available. By these means I gained views on beekeeping from various points, and began to consider a system for managing my embryo apiary.

But, to return to my story. That first season stands out as including more experiences and a greater variety of ways for the acquiring of bees than ordinarily come to the beginner, even after many seasons. My first was a swarm, the swarm. The next came by purchase (this colony contained a

\$2.50 tested queen, and it has been my very best to the present moment, having given three frames of sealed brood and over 90 pounds of extracted this season. The queen was superseded the second summer). The next was a swarm, caught by my son. The next was a two-frame nucleus from No. 2. The next was chiseled out of a hollow tree in the middle of a hot August day. The next (the sixth and last of that first season) was a cluster of the field bees not captured with the combs and bees from the hollow tree two days before. Owing to inexperience and a strong desire for more bees, these were not united, but both were carried through the winter successfully. The queen having been lost by reason of inexperience, each "swarm" was supplied with a new queen.

Through all that season's campaign each member of the family became initiated by at least one sting. I myself taking no more than four degrees.

That autumn I made jackets of old carpet which were slipped over each hive body and then wrapped with an asphalt roofing felt, which was held closely by string and tacks. That season is recorded as "the worst ever;" but having fed liberally, all came out the following spring in good condition.

The number was increased to ten the second season by divisions and one swarm. That one swarm came out with a virgin queen. Fortunately I was at home, and with the aid of a hose I secured them without trouble. Seven young queens were found running around in the old hive, and many queen-cells in all stages, but no brood and but little stores. One supersedure and a colony queenless in October, together with some experimenting, made up quite a program. That was also a poor season, so there was yet no surplus, and some feeding was required. The same winter arrangement was used, and all came through in good condition.

This spring I began to make the hives over with double walls. They are now all double-walled, six with the old  $\frac{7}{8}$ -inch hive-body having a space of about  $\frac{5}{8}$  inch. Some were packed with mineral wool and others with sawdust, all having  $\frac{3}{8}$ -inch outer walls. Four are regular double-walled with deep slip covers. All have three to five inches of sawdust on top. I use super covers all the year through. All have two-inch rims between the bottom-board and hive body, and eight-inch winter-entrance boards, which were described and illustrated in the Sept. 1st number of GLEANINGS.

*Continued on page 28*





By Boulder Creek.—Photo by Wesley Foster. Along the streams the willows, maples, and cottonwoods are the first to gladden the bees with offerings of pollen and honey.

## EDUCATION AND THE CAMERA

BY WESLEY FOSTER

[Few have realized that our department editor from Colorado is a picture-lover. He is not a kodak fiend who snaps every thing and yet makes no real pictures, but an enthusiast who sees the beauties of nature with artistic eyes, and who is able, by the aid of his camera, to make permanent what he sees.

We give place to this article here, not so much because it will be a help to beginners in beekeeping, but because it will serve as an introduction to several other beautifully illustrated articles by Mr. Foster, to appear in the near future, that will make beekeeping more intelligible to beginners and more interesting to all.

The cover picture for this issue, "Nature's Own Parking," is the third photograph submitted with this article.—ED.]

If some educational dreamer had arisen twenty years ago and advocated the introduction of picture-taking as a part of the school curriculum he would have been laughed at; but to-day we already have the dark-room along with the laboratories in our modern schools.

The old idea about picture-taking, stereopticon entertainments, and such like, was that they were merely diversions, while now it is recognized that we learn quicker and retain longer what has been absorbed in an atmosphere of pleasure. And in every village, where there are camera "fiends" I hope they will lay the matter of a picture-

making studio before the school board when a new building is to go up or an old one remodeled.

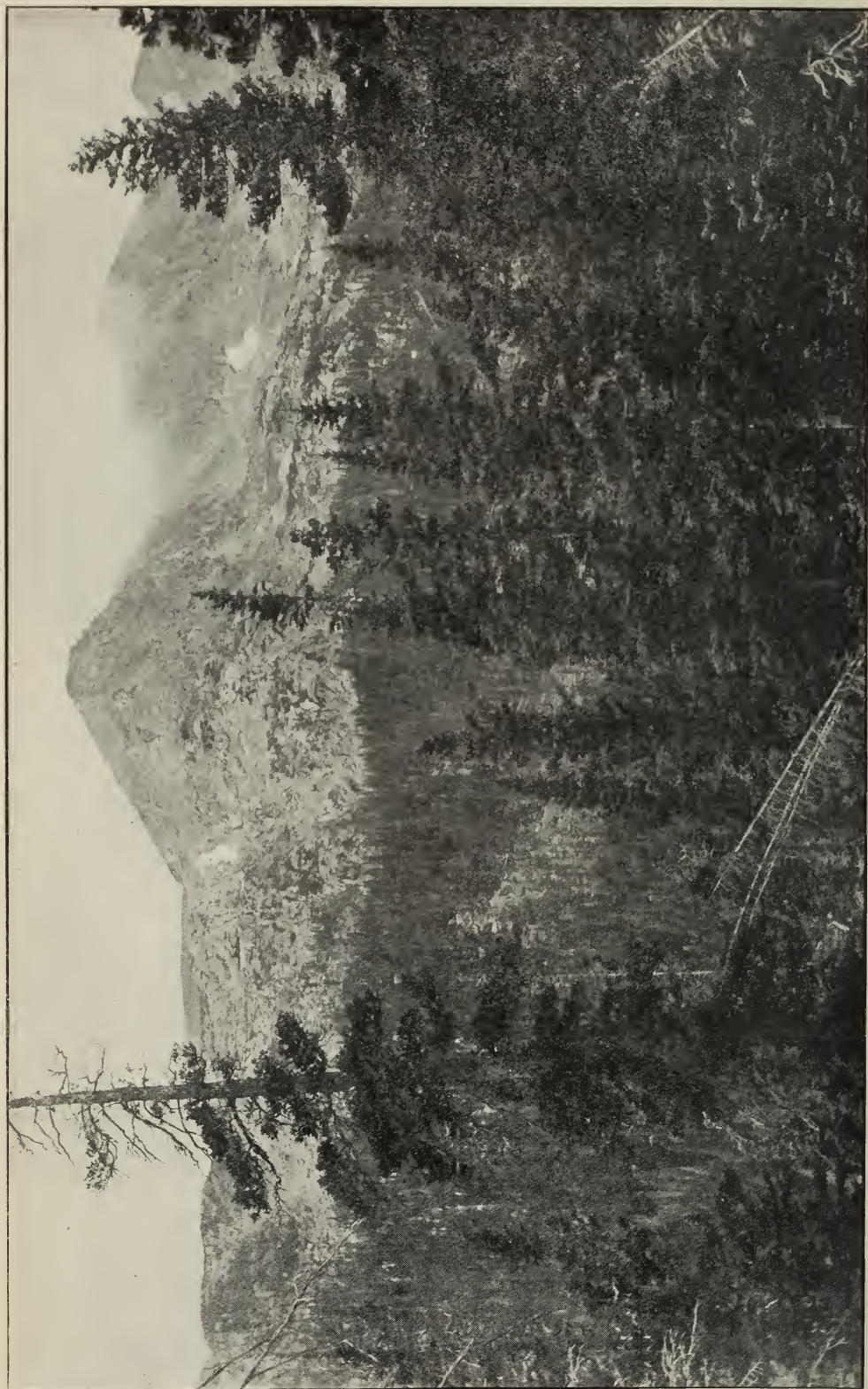
The camera will be an aid to all other studies—the mathematics of correct exposures, the chemistry of development, the botany and geology shown in the pictures, and the cultural development from the study of composition. You can well nigh get an all-round education with your camera.

Nature is the mother of us all; and any means of getting a closer view of her workings should be eagerly seized. The camera will fix the various phases of nature indelibly in the mind, and be a constant source of pleasure to the possessor of the memories of the walks in the fields, together with a pride in the pictures taken.

Awaken the spirit of observation, and the world increases in interest. The weeds by the roadside, with their seed-pods held high above the snow in winter, furnish the birds with their winter food. Stop in your walk and watch them getting their dinner. If your camera is along, take a picture. What kind of birds are they? If you do not know, the work of taking the picture will give an opportunity to note their markings and characteristics, so that, when at home, they can be looked up.

Take a walk through the woods in the





"The Majesty of the Hills."—Photo by Wesley Foster.



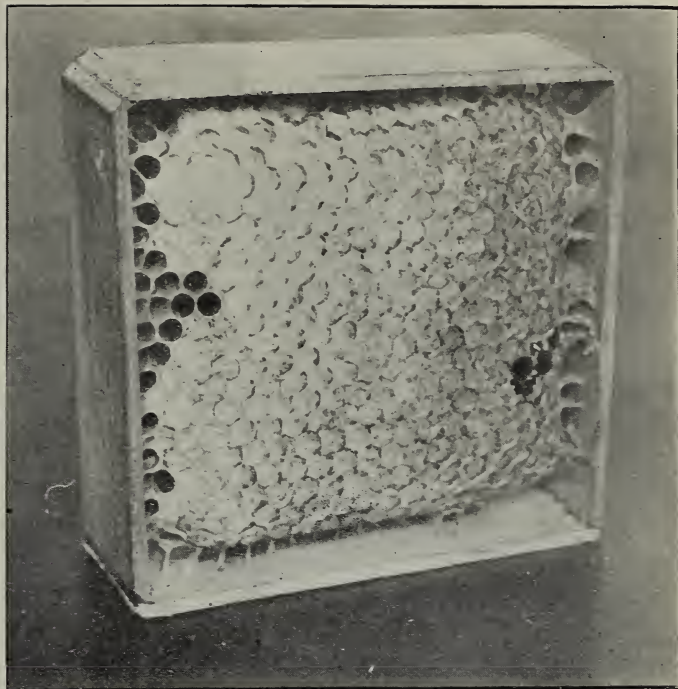
fall. There before you is a side hill down which the road winds into the valley and across a bridge over a creek in the valley. From among the trees is disclosed the outline of a house, smoke rising from the chimney.

To the ear comes the dog's bark, and the familiar farmyard sounds of cattle and chickens. There is a picture with road and hillside for a foreground, and the road leading the interest right up to the farmstead; and as the feeling of content wells up within, you will almost instinctively find the spot where you can express the spirit of the scene by eliminating most of the irrelevant things in the landscape. But few things need to be shown — the farmstead and the naked trees with the road and bridge leading up to the house. What is desired is balance in the picture—not all the light or shade on one side or the center of interest placed right in the middle. Have it a little above or below and to one side of the center. What is essential is that you feel the meaning, and the results are sure to be better than if pictures are made hurriedly. The scene is a beautiful one, and you should absorb the impressions along with the film.

The technique of making correctly timed exposures is nearly equal to mathematics for mental drill. The animation of the camerist dispels the thought of drudgery. With a R. R. lens the bulk of my exposures are made in 1-10 second stopped down to 32. I vary this according to the light, and have fair success in getting landscapes. I do not like to take many pictures in the brightest sunlight, preferring some clouds, for softer tones seem to be the result.

An expensive outfit is not necessary. A six-dollar camera taking some of my best pictures was the one that got me interested in taking pictures. A medium-priced camera is the best to start with, and a better outfit may be bought later on.

At first it may pay to take the films or plates to a photographer for developing



"Fools not all dead yet." The section shown in this illustration was folded inside out; and although the corners broke it held together long enough to be put into the super, and then the comb held it together.

and printing. If he is talkative you will soon learn points that will help in doing this work yourself. The catalogs and booklets sent out by the photo-supply dealers will soon give one a good working knowledge if they are studied.

Composition is the whole thing in picture-taking. Some say it is all in the lens; but the best lens will not make a picture out of a piece of landscape if the elements that make up a picture are not brought together in right relations on the film. The cheapest of lenses will make a picture if the limits of the lens are taken into account.

Camera catalogs warn against taking pictures with the lens pointed toward the sun; but by shading the lens from the rays of the sun, atmospheric effects can be obtained that are hard to secure any other way.

"By Boulder Creek" was taken with the camera facing the sun, shading the lens with my hat. The feeling of spring is there: the buds are just opening, and the bees are getting their first pollen. Boulder Creek has not yet begun to rise from the melting snow in the mountains. There is not the detail in the shadows that I should like; but being only an amateur I have not learned how to make a picture more attractive after it has been taken. "Majesty of the Hills"



Colony of bees transferred from the wall of a garage to the hive shown.

shows the mountain forests and the timber line, the peak shown rising to an altitude of about 13,000 feet. A cloud hangs down over one of the peaks. The pine-laden canyon is nearly two miles wide; and as I focus my camera the pine squirrels and bluejays are scolding each other in the trees, while the water-ouzel fishes for bugs and worms in the stream, faintly heard in the canyon's depth. We rejoice that we can keep these memories fresh with the lens and plates of our camera.

Boulder, Colo.

### BEEES THAT WORKED IN THE RAIN

BY FRANK S. LOCKE

I am sending a picture of a very remarkable colony of hybrids—at least they appear so to an amateur such as myself. I know that I am working at something a little out of my line; but the study has become so interesting to me that I shall have to be tolerated by those who think me over-enthused.

I am a chauffeur by profession, and an ardent admirer of the A B C and X Y Z of Bee Culture, to say nothing of GLEANINGS. I spend six months of the year in the

country; and during the early part of this summer I was attracted by a swarm of bees which were making the air merry about my garage. I started the motor of a six-cylinder car, making much noise, and was finally rewarded by seeing the mass cluster on a tree near by. I knew absolutely nothing of bees or their habits at the time, but made up my mind to ascertain a few things on the spot myself. I shook the swarm into a box, then transferred them to a hive later. They made a break a few days afterward because I moved them, not knowing any better, and absconded for parts unknown, but my interest did not go with them. I looked at the hive (quite empty now), and found that I had only a small piece of comb, seven frames with starters, and last, but not least, a keen desire to see those little rascals busily engaged again. Therein lies my tale.

You will see in the photograph a window, at the upper left-hand corner of which was the flight-hole of a stray colony that had been there for three years. Lower down, near the entrance to the hive, you will observe an escape which I manufactured from a tobacco-box of tin. A fine spiral spring did the work. Before putting on the escape I nailed screen wire over every available



exit they might find, then cut a small square hole lower down, over which the escape now lies. In two days every bee in the house was using my new hole as an entrance; then I put on the escape, placing my hive in position at the same time. I do not know how the Porter works; but I must say the bees simply fell through this one of mine. They just crowded one another out through this spiral spring flapper I made. Any bee that once crawled into the tin was forced bodily out. I can move the flapper out by blowing on it, but it opens out only. No bee ever crawled back.

Now for the queer part:

Those bees accepted a hive without eggs, bees, or brood. They had foundation starters only. They built comb, filling it with honey. There were no laying workers among them, and no queen, as I ascertained later, before introducing an Italian queen.

They were three weeks without a queen, and simply went crazy with joy when I gave them their new mother. She was of good quality, laying on the second day after coming through the mail. They start at daylight, working like mad, and I can say in all sincerity that, during the past two days, those same bees have been flying at work in a steady rain which has left large puddles everywhere one looks.

The whole business looks queer to me as they come in all wet with their wings spread wide as they walk—no stopping them. I wish I had about 100 colonies of such bees. I'd stop driving automobiles.

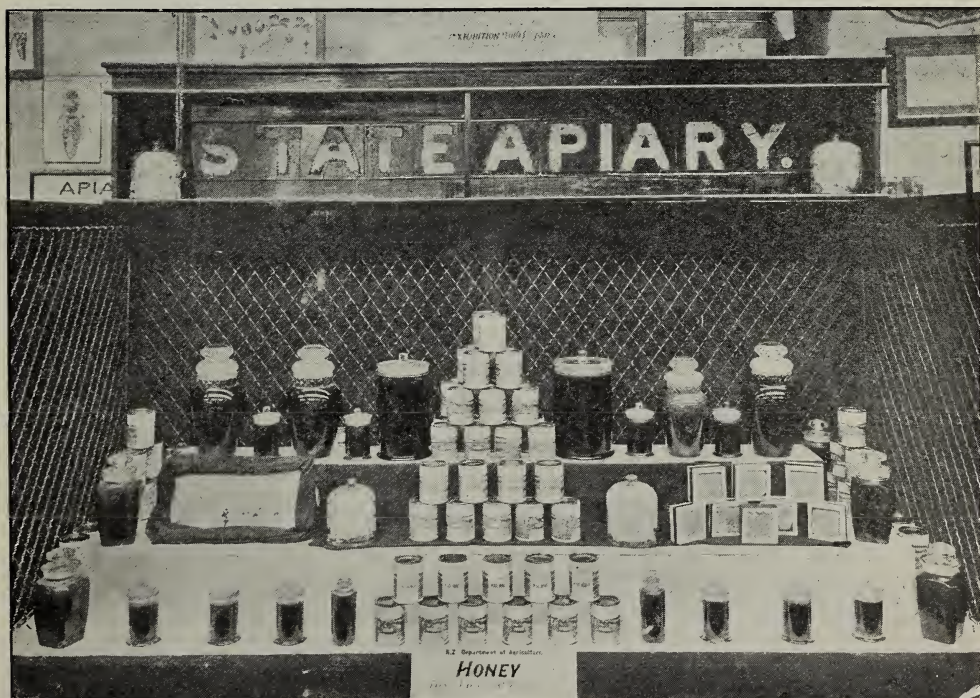
San Mateo, Cal., Sept. 7.

## BEES BUILDING WORDS IN COMB HONEY

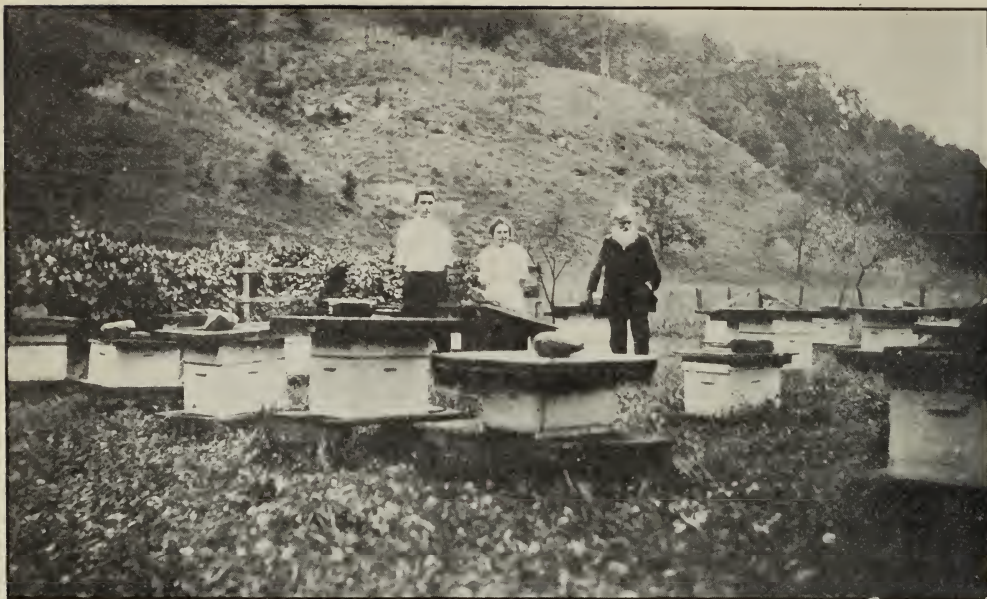
BY I. HOPKINS

In the August 15th issue, page 515, you ask for articles on the method of making the bees build letters in comb. The accompanying photo shows the words "State Apiary" built by the bees we had in the government model apiary, established a few years ago at our international exhibition. The body of the photo is an exhibit of a portion of the honey raised at the model apiary; but owing to the photographer not using a color-screen on his lens the amber-colored honey in the glass jars came out black like ink.

The case over the exhibit contains the words mentioned, in comb honey. The case was nine feet long, and the words occupied a length of nearly eight feet. At each end of the case is a bell glass filled with comb honey, built by the bees also. Each letter



New Zealand Honey Exhibit. The words, "State Apiary," were built by the bees in comb honey.



James Woodzell, Webster Springs, W. Va., and his apiary of 38 colonies. The shade-boards are the covers of winter cases made from coffee-boxes.

was eight inches in height and two inches broad in the stroke.

#### HOW THE LETTERS WERE ARRANGED.

First of all, I made frames one inch wide out of quarter-inch stuff, similar to brood frames. I then obtained some bare half-inch well-seasoned boards, screwed them together, and cut them to fit the frames. They were then handed over to a man having a fret-saw, to cut out the letters right through the two boards. Each frame afforded space for two letters. The boards were next taken apart, and a sheet of foundation laid between the two boards, and the latter screwed together again. Now, the only places within the frames the bees could build when they were in place was where the letters were cut out on each side of the boards.

#### HOW TO GET THE LETTERS BUILT OUT QUICKLY

The quicker the letters are built, the better appearance they will have. For this purpose, choose extra strong two or three story colonies, and see that the queen is confined to the brood-chamber with an excluder above the frames. Place a couple of frames of lettering in the center of the top box immediately above the brood-chamber, with one frame of comb between, and remove them directly. The comb in the letters are capped over. The lettering should be done when the honey-flow is fully on. My first attempt was made over thirty years ago.

Auckland, N. Z., Sept. 16.

### WINTER CASES MADE OF COFFEE-BOXES

BY JAMES WOODZELL

The picture shows a corner of my apiary of 38 colonies, all of which are in eight-frame dovetailed hives. Grapevines on three sides, and a wood-house and dairy on the other side, give considerable protection from cold winds.

I winter my bees on their summer stands. I take coffee-boxes, such as are used for Lion's or Arbuckle's 100-lb. packages, and cut off the bottoms and tops. Then I cut out three inches from the bottom of one end and nail the piece back in such a way as to make a shelf over the entrance. I set this prepared box over the hive, and thus have about three inches of space on all sides, and nearly as much over the top, which I fill with hay. The tops and bottoms of the boxes make the covers, which are used in the summer for shade-boards as shown in the engraving. I nail four pieces of narrow boards together, making a framework on which are nailed the top-boards of the coffee-box. Then I cover the whole thing with cheap felt roofing. These covers telescope over the winter cases. By using these cases I have had very little winter loss.

My hive-stands are made by nailing ten-inch legs on a square framework made of four narrow boards, and covering this with one-inch boards for a top.



For my surplus honey I use shallow extracting supers, and cut the honey from the frames in four pieces, weighing approximately one pound each. I have no trouble in disposing of all of it at 20 cts. per pound.

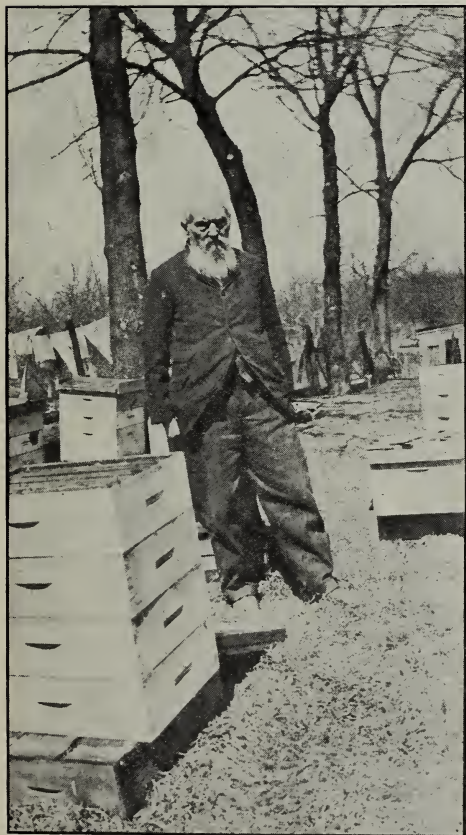
Webster Springs, W. Va.

## GRANDPA NICKEL

BY MRS. MARY ROBISON

I am sending you a picture of grandpa Nickel, a dear lover of GLEANINGS. He is very much interested in all of its articles, especially in the Temperance and Our Homes departments. He is a retired farmer, and keeps a small apiary for pastime and pleasure. His honey, of which he always has a good supply, he divides among his children, grandchildren, and friends. He does not know I am sending his picture, and I want to surprise him. Grandpa Nickel is my father.

Concord, Ill.



Grandpa Nickel among his bees, Concord, Ill.

## EXPERIENCES OF A FOUL-BROOD INSPECTOR

### Different Types of Beekeepers Met

BY J. E. CRANE

*Continued from page 815, Dec. 15.*

There is reason to believe that there are some persons who are not fond of seeing an inspector. One man told me that last spring the cattle commissioner condemned and killed most of his cows, and now I had come to kill his bees, and he seemed to feel as though his lot were a hard one.

A good lady was afraid the inspector would open her hives and set the bees to robbing (as no honey was coming in), make them cross, and that they would sting the domestic animals and even poultry, causing any amount of mischief. She reasoned well, only she did not know the inspector. (One man told me that last year he lost 75 turkeys by the bees stinging them to death. I can not vouch for the truth of his story; but I think there may be some truth in it, as I believe his bees were the crossiest I have ever seen.) But there was no disease among this woman's bees. On the contrary, I found that her hives had had the nicest care, and her surplus combs were the finest I had seen anywhere. I have sometimes thought that beekeeping is not adapted to women, nor women adapted to keeping bees; but since I have seen the success of this woman, and of others whom I might mention, I have decided that it might be well to revise my opinion on the subject.

One woman went with her husband to look over the bees on a hot summer day. He had on a thick coat, gloves, and veil to protect him from stings, while she walked around fearlessly with bare hands and arms.

Still another woman, the mother of five small children, I found helping her grandfather, who was eighty-three years of age, and nearly blind, caring for a large yard of bees. With me she looked through the entire yard to find any diseased colonies. She told me she was in perfect health, and enjoyed the outdoor life.

An inspector has many opportunities to receive as well as to give instructions. In going around among all sorts of beekeepers he finds many persons who excite his pity or sympathy. One of these, an old man with a farm and a few bees, appeared feeble, and had but one hand. I have seen many one-armed people, but never before one that appealed to me as he did. How could he care for his bees with but one hand? I often find myself wishing I had three when I am working with them.



Beekeeping as taught in some of the rural schools of England.



One woman whose bees I went to inspect lived in an old house. Her clothes were in rags, and were thrown carelessly upon her person. Her house was in the utmost disorder. She seemed to think I had some sinister motive in asking her name, and would not tell me. I have since wondered if some Christian woman could not go to her, carrying some of the comforts of life, and take her hand and tell her that the good Lord loves and cares for her, and bring some light, cheer, and hope into her desolate abode.

And yet another. His neighbor carried me over to see him, and told me on the way that he was somewhat cranky. On reaching the place he introduced me to him. I offered him my hand, which he refused, saying, as he drew back, "I don't know you, sir." As I looked into his face and saw the wild, strange expression, I recognized that he was insane. Yet he was living alone, caring for himself. He had a good garden, and one of the largest yards of bees in the town. I suggested looking at his bees. He told me it was unnecessary. He knew all about bees, and said that they had no disease. Nothing I could say would convince him; but I admired his large patch of fragrant onions without a weed; his thrifty turnips, and his potatoes so free from beetles. He slowly relaxed; and while his neighbor engaged him in conversation on the value of different varieties of potatoes I managed to look into several of his weaker colonies where disease would be most likely to show itself if present. When I was ready to leave he bade me good-by with a hearty hand-shake, and asked me to come again. How sad to see the marvelous mechanism of the human body so disordered as to give the mind distorted thoughts and views of life!

#### A LARVA FOUND WITH ITS HEAD AT THE BOTTOM OF THE CELL.

In looking over brood constantly for disease I have found that one becomes more observing, and sees some things he never saw before. Last winter, in giving a talk on bees before a Young Men's Christian Association meeting I told them that in all my experience I had never known a young larva to spin a cocoon and to change from the larval state to a perfect bee with the head toward the bottom of the cell, possibly because larvæ instinctively sleep with their heads in the direction of the mouth of the cell, ready to walk right out when mature. This season, however, I saw one such case, and I had the pleasure of helping the little witless thing from its cell, rear end first.

I wonder if it will know enough when it gets to work to come home when it rains.

#### ANOTHER BROOD DISEASE.

There are diseases that afflict the larvæ of bees, other than foul brood; and I have been surprised to find how general one of these is. It seems to be everywhere; and, while not very destructive, it should be studied, and, if possible, some remedy found for it. I sent a sample of it to Washington, and was informed that I need have no anxiety about it. The disease seems to kill the larvæ after they are sealed up, and at almost the same time, as they all look alike when the cell is uncapped. These dead larvæ do not decay in the cell as those do that die from American foul brood, but retain their form, and seem to dry up when they are removed by the mature bees. I observed it several years ago, and in some cases it was very bad—almost every larva in large patches dying, and then it would disappear and I would scarcely see a cell of it for two or three years. While it is not so bad as foul brood, the loss in the aggregate is considerable.

#### SHAKING INTO A BOX FIRST.

I have noticed that, as a rule, the advice given to beekeepers who have foul brood is to shake their bees upon frames, these to be taken away in four days, and a clean hive given them. After a little experience I have advised shaking into the brood-box or any other box for the first time, and after four days giving frames of foundation. This has seemed to work well, and I have failed to hear of a single case where disease has reappeared because the old brood-chamber was used without being disinfected or burned out. It seems well to make it just as easy as possible, within the bounds of safety, for beekeepers who have diseased colonies. I have been more careful with inexperienced beekeepers than with those of more experience.

Middlebury, Vt.

*To be continued.*

### BEEKEEPING TAUGHT IN PUBLIC SCHOOLS

BY JOSEPH TINSLEY

IN GLEANINGS for Nov. 1 I notice Dr. E. F. Bigelow refers to his experiment of teaching beekeeping to boys who, he says, are the sons of wealthy parents. I am pleased to inform your readers that we in Staffordshire are a great way in front of this. We have actually ten public elementary schools where beekeeping forms part of the school curriculum. The schools selected for this experiment were purely rural

ones, situated right in the heart of the country, and are naturally attended chiefly by sons of agricultural workers. Such teaching is bound to bear fruit in time, whether at home or abroad; and now we have made a start I anticipate the whole of the schools in rural districts will be drawn to adopt a similar course of study, and in time beekeeping will form the syllabus of every country school.

The photos will explain themselves, and were all taken at one particular school at different times of the year. The first four photos have previously appeared in that excellent little journal, *The Beekeepers' Gazette*, but I have Editor Digges' permission to utilize them in this direction, as it is not often that we are in front of our cousins across the water. The remaining photos have not previously appeared in any paper.

You will naturally ask how beekeeping came to be taught in the schools at all. It was chiefly due to my own personal representation and to the good work of our association (though at the same time I must admit that the education in this country is undergoing a vast change, particularly in rural parts) that the Staffordshire Education Committee agreed to the experiment. The difficulty then presented itself, how could the schoolmasters and mistresses teach the subject, not knowing it? Such obstacles can be overcome, and they were overcome by my giving them a series of lectures and demonstrations; and here let me remark that it was not only an easy task, but a very simple one. Highly trained men and women can be taught a subject, or, rather, the elementary portion of it, in a very little time. They are apt pupils; and when I explained the anatomy the enthusiasm for the subject was apparent.

I need scarcely say that the children exhibit no fear at all. The trouble is to keep them back. Each school is supplied with two up-to-date hives, with accommodation for the storing of 60 lbs. of honey, two stocks of bees, ten veils and a smoker, while there are extractors and honey-sieves to go from school to school. The children are thus educated in all the various branches. We already see some results by parents of the children buying a hive of bees instead of the pet rabbits, cats, pigeons, etc.

The educational feature has been a great success, and the financial side has also been satisfactory, one school having made \$15.00 from the sale of honey from the two hives.

At one school, where the schoolmaster has developed rapidly into a first-class beekeeper, an observatory hive was fixed in the school window, and this has proven an ex-

cellent educative feature, the children being able to observe the bees at work in every detail. It is intended to fit more schools in a like manner in the future.

The children are taken to the colonies, and a practical lesson is given, according to the time of the year. The scholars then write, unaided, an account of the lesson, thus marshaling their thoughts and setting them down on paper. These are very cleverly done. At some schools the girls are instructed in cookery, and these girls are taught the art of making bee foods. Woodwork is another subject that is being taught, and here also the boys are instructed into making articles for the apiary, thus making the subject doubly interesting and practical.

A profit-and-loss account is kept in all the schools by the children, thus enabling them to be keenly attached to a subject in which they have a personal interest.

Stone, Staffordshire, England.

## HOW I STARTED BEEKEEPING IN A LARGE CITY

BY ALBIN PLATZ

On July 6, 1908, I started my career as a beekeeper on a small scale, engaging in the pursuit principally for the recreation it affords, and to keep myself and friends supplied with the finest and purest of all sweets—honey. I bought my first colony on the evening of the day mentioned, paying \$5.00 for it, which also included all fixtures, such as queen-excluder, super complete, etc. The day was exceptionally hot and sultry; and in order to confine the bees securely while they were being transported to my home the beekeeper of whom I bought them nailed a piece of wood over the entire entrance, excluding all air. They were thus confined over three hours, and I have often wondered why the combs did not melt down and the bees smother. However, no such thing happened, and I received them in first-class condition. During October of the same year I purchased my second colony of a woman in the eastern end of Cincinnati, for \$3.50; and from this colony I raised my best stock and queens. I bought both of these colonies too late in the season for them to store any surplus, but they went through the winter in fine shape and were exceedingly strong in bees in the spring.

Now, thought I, having read all of the literature on bees I could get hold of during the winter, and knowing it all theoretically, I can not fail to harvest a nice crop



of honey; for every thing presaged a good honey year. That was in 1909. But I was sorely disappointed; for not only was there no honey, but, on the contrary, I had to feed the bees to keep them from starving. That made two years of failure to start with—somewhat discouraging for a brand-new enthusiast.

Naturally I had to stand a good deal of chaffing and ridicule about this time, and many advised me to give it up, saying that it requires an expert to make bees produce honey; and, moreover, they never would store any surplus in the city where the pasturage is so limited. "Give me one more year," I said; and if the third season would prove a failure I would acknowledge myself beaten and throw up the sponge, so to speak. Well, the spring of 1910 rolled around, and I increased my two colonies to four by dividing. Fruit bloom and locust yielded nicely, and then came white and sweet clover; and with the latter, lots of honey. I had two swarms, and harvested almost 300 lbs. of honey, besides saving almost 50 lbs. in sealed combs to use for feeding if necessary. I sold my entire crop for 20 cts. per lb.

Every thing looked rosy to me now, and I made great preparations for 1911, intending to increase my six colonies to a dozen or more, and to increase my honey sales. But a fine surprise awaited me. One morning in early June, while examining my colonies I was shocked to discover American foul brood in one of them. I immediately sent a sample of diseased brood to Dr. Phillips, at Washington, and he told me the bees had American foul brood, and gave me instructions for treating it. Before I had his reply, however, the other colonies became infected, two of them being virtually rotten with the disease. Here was a fine state of affairs. No honey was coming in, and foul brood to fight! Well, I prepared six clean hives with full sheets of foundation, and gave them the McEvoy treatment, shaking some in the morning and some in the evening; and in no case did the disease reappear. It was cured completely; but the cure cost me over a hundred fine brood-combs and about 150 lbs. of sugar. Thus ended the season of 1911.

After having survived the most severe winter (1911) in forty years my bees came through in fair shape for 1912—no loss, although the average mortality was over 75 per cent. By swarming and making a few nuclei I increased to eleven colonies, and secured 415 lbs. of honey. I produce only extracted, and it sells readily for 20 cts. per lb. My best colony of Italians stored

155 lbs.; and my worst, a colony of Banats, 37 lbs. I have two colonies of goldens; and while they are good honey-gatherers, they are also great robbers; and after the honey-flow is over it is almost impossible to keep them under control. I had one case of robbing this fall, and carbolic acid had no effect on them. As for the Banats, no more for me. They are extremely excitable, poor comb-builders, great stingers, poor honey-gatherers, and it is next to impossible to find the queen in a populous colony. All things considered, no strain can compare with good Italian stock. They are gentle, and by far the best workers.

Before I close I should like to give a few pointers to beginners. Adopt the ten-frame hive and stick to it. Don't practice stimulative feeding in the spring. Keep the best strain of Italian bees. Use absorbent cushions in wintering (not sealed covers), and don't tinker with the bees too much. By reading GLEANINGS and keeping a copy of the A B C of Bee Culture at hand, the theoretical part may be acquired to perfection. The practical part will naturally take care of itself.

Cincinnati, Dec. 12.

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## A SCHOOLTEACHER'S EXPERIENCE WITH BEES

BY V. ROSS NICODEMUS

The shades of night had already fallen when I arrived at the old beekeeper's stand, three miles from home. He expressed his doubts as to whether I could get my colony home; but I assured him that, if he would get it ready, I would run the risk. I had not gone far on my homeward way before I saw the reason for his doubts. The little box which served as a super jolted loose, and at every chuck in the road threatened to release the prisoners. I soon fixed this, however, by sitting on the hive; and, driving old Dobbin at a brisk trot, I arrived safely home without becoming aware of a single bee getting through the cover board.

Later I bought two more colonies, one of which died before spring. Every day when I returned home from a strenuous day's work in the schoolroom, I would slide the lid of the hive to one side and peep in just to see how the bees were getting along. This first colony I transferred to a modern hive. Later I clipped the queen's wings—too closely, perhaps, for she died soon afterward. In June I purchased two two-frame nuclei of goldens, and put them into new hives. I thought I was getting along nicely in the land of beedom. Little did I

know that my birchbark canoe was drifting down the stream instead of up.

The summer of 1911 here was poor, as it was in so many other localities. In September the bees almost starved, and no honey, although I had two supers on one hive all summer. I fed enough sugar to last them over winter. When winter began I had fine colonies; and when spring came I had none.

Not dismayed, however, I purchased another, and, profiting by my experience of the past, I was able to increase from one colony to six by buying some queens and a nucleus. I now have six, and secured about 40 lbs. of honey. This amount has cost me no small outlay of money, and a greater amount of time, and a few stings; but the experience that I have gained, and the pleasure I have had in working with them have amply repaid any deficit on that score. I shall try again.

Henrietta, Pa.

### SOME EXPERIENCES IN LEARNING TO KEEP BEES

Reading Necessary as well as Practice; Clipping a Leg as well as a Wing

BY W. M. SHIELDS

My first experience with bees was with a colony of blacks which some one had advised me to winter in a hole in the ground. The hole was lined with boards in order to avoid dampness. The hive was put in and covered over with boards and earth, all being done according to directions given by my neighbor. When opened in the spring the hive was floating in water, and the bees were dead.

The same neighbor, by way of encouragement, offered me another colony at half price. I bought it, wintered it in the same hole, first taking care to put in a drain. This hive, when taken out in the spring, was covered with white mold, but it contained live bees.

For some years, through lack of knowledge of bees and their ways I never got beyond three or four colonies. I read much about bees in various papers, but the articles happened to be written for those who already knew something about them, and generally left me in a rather muddled mental state. Later I bought the A B C of Bee Culture, Langstroth on the Honeybee, and subscribed to GLEANINGS. It was after looking into these books that my interest in bees took a start. Then a two weeks' course in apiculture at Guelph kindled my interest into a flame.

My original colony was in a home-made unpainted box with fixed frames. I had, however, gradually changed to the eight-frame Langstroth hive, and last spring I changed to the ten-frame Langstroth. With these standard hives I purpose to stay.

I read and reread bee literature during the winter; and when spring came I very naturally felt that I knew all about bees. I knew just what I should do and what I wanted to do. My three colonies had been wintered in the house cellar, each one in a box by itself. When taking them out in the spring, one hive slipped and slid about on its bottom-board, and the bees came out in thousands. That was the first event.

Then I discovered that one colony strong in bees had no honey. What should I do? My reading came to help me in a jumble of "avoid spring feeding," "Boardman feeds freely in the spring," "better not to have to feed at all." I *had* to feed—no doubt about that; but how much or how little I could not remember, so I had to go back to my A B C book.

I knew, or at least I thought I did, all about clipping queens' wings, and knew how to find a black queen; for hadn't I read Doolittle on the subject until I could say every word? The colonies had been out of the cellar a day or two when a growing anxiety about these wings led me to try things *a la* Doolittle. My wife thought she would like to help me. The day was cold and windy, so we took a folding screen from the house to shelter the hive and ourselves, and then began the hunt. We had transferred the frames, and hunted the hive several times, when my wife ventured the remark that perhaps Mr. Doolittle was joking (I had been quoting parts of his article to her). It was no joke, I thought. At last my wife said, "Look! I believe that is the queen." In the excitement of trying to see a queen for the first time, our heads bumped. Our straw hats were knocked awry, and we lost sight of her. After a while she was found, and we clipped her wings. It will be well, perhaps, not to dwell on the furious bees we had that day, and, in spite of veil and gauntlets, on the stings we both got. I know now, of course, that, although it is a very good practice to clip the queen's wings, we had no business poking about a hive on such a cold day nor so early in the season on such an errand; but when a fellow is *sure* he knows all about it he is apt to overlook some details and forget to put two and two together.

Then a bulletin on foul brood, and the need for Italianizing, came to hand. I had read about foul brood; but Italianizing



was something new. I had apparently skipped it in my reading. I looked it up, though, and sent off for an Italian queen. This was in June, I think, just when the colony was strong and fit to gather in a heavy white-clover honey harvest. The queen arrived, and we (the same two), hunted long for the black queen, found her and killed her, and also destroyed all the queen-cells we could see. When the hive was put in order again, and the cage with the new queen was in place and the cover on, my wife said, "Now, Willie, are you quite sure it was the queen that you killed?" I immediately began to think it wasn't the queen, for now I come to think of it, it was perhaps a drone. However, I said to her, "What is the use of making a fellow doubt his ability as a beekeeper?" Didn't I know a queen? It was the queen, though, as after events proved.

A week or two after that, we looked for her majesty, and it was very easy to find her among her black retinue. We clipped her wings; but in doing it we also took a piece off one hind leg—by mistake of course. Fortunately she has turned out to be a good queen.

Now, this bit of Italianizing was rather costly. I should not have meddled with the hive at the time I did, for the operation stopped the laying of eggs for some days, and made a very marked decrease in the working force. I got little or no surplus honey from that colony, when, by delaying the Italianizing until after the honey-flow, I might have had two supers of honey to extract.

These are some of the more serious blunders I have made while learning, and I console myself with the thought that we all make mistakes. I should like to say for the benefit of other learners that, time and time again, I have found the reading I did, and experience obtained in other ways, of much practical value. The reading enabled me to increase my apiary from three colonies to six, all very strong; and with young queens to Italianize all of them, and to extract 185 lbs. of honey. I do not think the business of beekeeping can be carried on successfully without considerable reading combined with practice.

O'Connell, Ontario, Canada.

[Occasionally beginners accidentally cut off a leg of a queen while endeavoring to clip her wings. As far as the queen herself is concerned this seems to do no great harm, although the bees sometimes supersede a queen thus crippled. Clipping is really very easy, but still, if there are drones in the hive it is well to practice on them first. —Ed.]

## HOW TO LOAD HIVES OF BEES ON A WAGON

### The Necessity of Thorough Preparation

BY ELIAS FOX

I have been reading the dangerous and hair-raising experiences of the two boy beekeepers in moving 30 colonies of bees 40 miles on a wagon, p. 688, Nov. 1, and I am prompted to write a few lines on moving bees by wagon or rail, as I think I have had as much practical experience as any one beekeeper. These directions will apply especially to strong colonies in warm weather.

First of all, they should be in good solid hives; and if not so, the hives should be put in the best possible repair. If the frames are liable to loosen and crowd together, nail each end with a small nail, or insert between each two, at ends, small blocks, and nail fast; then make frames of common rough lath to fit the top of the hives, and lay screen on top, and put another frame of lath on top of this, and nail down through into the top of the hives. If they are very strong, and the weather is proportionately warm, nail a comb-honey super on top of the brood-chamber, and fasten screen on top of this; and if the super is full of empty or partially empty sections it will be all the better, as it affords better clustering facilities.

Now comes the closing of the entrance. The majority of people close it by tacking screen over it, which is the poorest way of all, for this reason: If screen is tacked over the outside of the entrance, it leaves it open the full thickness of the lumber, and the bees sometimes crowd the entrance solid full, and are so heavily clustered over the inside of it that bees can not get back, and thus cut off practically all this source of ventilation.

A much better and safer way is to take strips one inch or even  $\frac{7}{8}$  inch square, and cut proper lengths to nail on the front end of the hives, making a rim on either side and at the top; then tack your screen firmly to the outside of this rim and let it run down to the alighting-board and tack a strip of any light material across this, one inch from the entrance; then you have a cage the whole size of the front end of the hives (less the three strips), and the bees will be just as comfortable as it is possible to make them in confinement, with no probability of any harm coming to them.

Be sure to do *all* nailing before dark, excepting the simple closing of the entrance. Should any small unnoticed holes

show leakage of bees when loading, calk them tight with cotton batting. Take a good bundle of it along with you to use in the same way in case of emergencies which may occur.

Load the hives firmly on the wagon with a liberal supply of straw under them; and when all are on have plenty of  $\frac{3}{8}$ -inch rope so that you can have one strand passing over the middle of each tier of hives. Draw as tightly as possible, and fasten securely. Then take more of the same size of rope and go two or three times around the entire load horizontally, and take one turn around each strand of body rope and draw as tightly as possible each time, and fasten securely, and I will guarantee with this method of preparation in loading, roping, and side lacing, that bees can be hauled for hundreds of miles without loss of a colony if you keep them supplied with water.

Union Center, Wis., Nov. 18.

## ONE SUMMER'S BEEKEEPING

BY OPIE QUEUE

This is to be a little record of my first year's beekeeping, so I shall start with the very beginning and gradually lead up to the grand finale which will be—but then, that is anticipating.

I started by buying from a friend a ten-frame hive of beautiful gentle Italians at a cost of eight dollars. I also purchased one shallow super with frames and foundation, ready for use, which cost another dollar. The hive was placed nearly in the center of the half-acre of ground that I call my own. Here, in the shade of an old apple-tree, Mr. K., who had sold the colony to me, opened up the hive while I stood at a respectful distance from him. I was very much surprised that he used no protection whatever—not even a hat, and he was bald-headed at that. Yet not a single bee attempted to molest him, and so I became bold enough to come to his side and look on; and I, too, remained unharmed.

When all necessary work had been done, and I had been shown some frames of brood and bees and the super was in place, Mr. K. left and my career began. Now, I knew practically nothing of bees. I had never in my life been within a rod of a closed hive, and never, to the best of my knowledge, within a mile of one that was open. Quite naturally I felt some trepidation as to the outcome of my venture. Yet I was determined to learn all I could to succeed and to make my bees pay for themselves. To that end I sent for the A B C

and X Y Z of Bee Culture; also for numerous government bulletins and other pamphlets treating on bees. And while waiting for these to arrive I had every one who pretended to know any thing about bees tell me about them. It would have been better, as I was soon to learn, if I had first gotten my books and had studied them, and then bought the bees; also, if I had not heard quite so many people talk.

It was the middle of June. Day after day I went down to watch my bees at work. They were busy from the first, as I could see by their hurrying in and out of the hive. Moreover, a delicious aroma of delicate sweets came to my nostrils. The temptation arose within me to open the hive and to peer into it. Indeed, though I had neither veil nor smoker nor gloves, the temptation became so strong that I could not resist. At first I raised the telescope cover just a trifle. When nothing happened I slowly took it off. Then I partly drew off the oil-cloth cover. Again nothing happened. I drew it off entirely, laid my hands on the frames, took one out, then took them all out, and nothing happened. Not content with this I took the super off entirely, and drew some brood-frames out of the lower chamber; and all the while not a bee came near me. This was on the second day after receiving my bees. It was all quite natural. The bees, being very busy, were also very gentle; and I, being a novice and very timid, was very gentle, and that is why I got along so famously.

As to the condition of things within the hive, I was on this occasion very pleasantly surprised. The foundation in the super was practically all drawn, or in process of being drawn. Indeed, I saw quite a little honey in the combs. As the days went by, the super gained noticeably in weight. Seven days of beautiful weather and uninterrupted flow filled it completely. It had the weight of a box full of lead. I telephoned to a beekeeping friend in the city, asking for advice. He told me to get some more supers, frames, and foundation. I asked when the new super should be put on. He said that he generally waited till the combs in the first super were partly capped over.

The next day I got five shallow supers, 100 frames, two pounds of foundation, a veil, a smoker, and a pair of gloves. Having prepared one of these supers, I waited for a sign of cappings in the first super. Alas! day after day went by and I could not find a trace of cappings. The bees got lazy, and would not work. The brood-frames contained numerous queen-cells. These, as



I saw them, I religiously cut out. In doing this I was following a bit of advice that some one had given me. I did this daily until the fourteenth day after I had received my bees. On the fifteenth, confident that things were in a safe condition, I left home to attend a convention that was to last a week.

It was on Tuesday afternoon, about 2 o'clock, when I returned home. I found a great uproar within my household. My wife was pale and panting; my mother-in-law was half sick; and the farmer from the neighboring field sat on his plow, scratching his head. My bees had just swarmed and hid themselves to regions unknown.

I have always been by nature somewhat of a fatalist; and when I was confronted with this situation all I said, or at least thought, was: "Well, it's too bad; but then, if they are gone they are gone, and that is the end of it." One colony of bees I still had, so why should I lament about the other that I didn't have?

Now another bit, not of advice, but of ignorance, came into play. Where I received this information, or whether I received it at all, I am unable to say. At any rate, I was firmly of the opinion that it is not the old queen, but the young one that leaves with the swarm. I reasoned thus: The young queen left with the swarm, therefore the old queen is still in the hive. I found numerous queen-cells. But, I thought, if the old queen is here, what is the use of the queen-cells? Out with them! I didn't want any after-swarms.

And the result? Well, it was something like this: Every day I went down there and looked for eggs and brood. I found neither. Whatever of queen-cells those very foolish and very frivolous bees had the temerity to build, I forthwith cut out. After two weeks had passed by I began to get worried, and telephoned to Mr. K. "That's bad, awfully bad!" he said. He promised to come out the next day. He was true to his word. Moreover, he brought another hive of bees with him.

For the purpose of getting queen-cells we put a frame of eggs and brood from Mr. K.'s hive into mine. Then we waited for results. A week later, when Mr. K. came again, not one cell had been built. Looking over the combs we found eggs promiscuously scattered about in the cells. Instead, however, of being attached to the bottom of the cells as they should have been, they were attached to the sides. Mr. K. said: "Laying workers!"

We carried the hive about 60 yards away, and there shook and brushed all the bees

into a large patch of tall weeds. Then we returned the hive and frames to the original location, and gave another frame of brood to it. Several days later, when I looked over the hive, I found some more eggs. The laying workers were still present in the hive. By telephone I told Mr. K. of it. He came again, three days later, and brought a young queen with him. Again we carried the hive away—fully a hundred yards this time. We were careful to shake off every bee, both from the combs and from the hive. Having returned them we put the new queen, caged, into it. Mr. K. warned me not to go near it during the next week. When he returned we found that the queen had been killed. Moreover, we still found the eggs of laying workers. What is worse, there was not a drop of honey in my hive, and thousands of dead bees lay scattered about—a case of robbing. Worst of all, Mr. K. discovered traces of American foul brood, not only in my hive, but also in his. You have probably heard of that cataclysm when thunder struck the toad! A very thrilling sensation, to be sure! I can sympathize with the toad.

Mr. K. was much worried. He had had the disease in his apiary the year before, but thought it was cured—indeed, had been sure of it. He immediately proceeded to treat the hives. There was but a handful of bees in my hive, so he broke it up entirely, burying the diseased combs (there were only a few of them) and putting the others into his own colony, from which he likewise removed combs on which he could find the disease. He was sure that he would thus get rid of all trouble. I was not quite so certain of it. Indeed, after I had thoroughly gone over the matter in my books and pamphlets I was certain that he would not succeed. And he did not. As the weeks went by we buried comb after comb, giving in their place frames of foundation. About the first of September Mr. K. thought the bees were free from disease, and so brought another colony out. He expected a fine fall flow of honey. Half of all that would come in was to be mine. But there was no fall flow, except barely sufficient for wintering.

In spite of all this, however, I managed so to manipulate that I was able to credit my bees, though they were dead, with some profit. Here is where the grand finale comes in.

Mr. K. invited me down to see him extract his crop of honey. I was glad to go. When he had finished he put up twenty pounds of fine white-clover honey and insisted on my taking it home with me. I thankfully refused. Mr. K. is an Irishman.

## A BEGINNER'S EXPERIENCE

BY B. KEEP

*Continued from page 12*

He persisted in insisting. Finally I yielded. In the evening I took my big bee-ledger from its little pigeonhole, and using a magician's wand, most solemnly put down on the credit side of it:

To 20 lbs. honey at 15 cts., \$3.00.

Thus had I a clear profit of \$3.00 from my first year of beekeeping.

And now, my fellow-novice, I will have the temerity to attach to the above a small appendix.

Never fool with bees when you don't know any thing about them.

Never fool with bees when you know just a little about them.

Never, never fool with bees when you don't know whether you know any thing about them.

But when you know that you know, and you don't give a snap if everybody knows that you know you know, then—

*Don't fool with bees, but keep bees.*

[As an afterthought to the above rather melancholy experience, we may say that most beginners (perhaps by luck) succeed in getting honey the first year without having all the troubles known in beedom as our correspondent seems to have had. If this were not true, we are afraid there would be very few beekeepers. But there are cases, like the experience cited above, when the advice received only seems to lead to more trouble and when every move seems to be just the wrong one. Our correspondent is surely correct in his observation that it would have been better if he could have secured his information from reliable text-books, of which there are now many, instead of trusting well-meaning, but poorly informed neighbors.

For the benefit of other beginners who may not be able to discover just what was wrong in the above management we will say that merely destroying queen-cells will not always prevent a swarm. And if a swarm does issue, it is accompanied by the old queen, the colony on the old stand being left with queen-cells, one of which contains the young queen destined to be the future mother of the colony. Destroying all queen-cells again rendered the colony hopelessly queenless, and in time laying workers developed. The plan for getting rid of them, while commonly practiced, is not very reliable.

The diseased combs need not have been buried. They could have been melted up, and most of the wax, at least, saved, so that a little more might be added to the profits, which, had it not been for the kindness of the one beekeeper, would have been nothing at all.—Ed.]

All bottom-boards have the Cary feeder. I very soon discarded the flat Excelsior covers, and replaced them with double pitched covers having an air-space, and covered with asphalt roofing felt (the same as that used to wrap the hive body); no painting; no leaking; no warping; and all made of cheap  $\frac{3}{8}$  or  $\frac{1}{2}$ -inch lumber.

I must admit that no small part of my enjoyment in beekeeping is derived from the mechanical features of it—the nailing and painting, fixing up supers, and all the little things in anticipation of the next season. Another most enjoyable incident has been the remodeling of an unused chicken-house, whereby I have a dry cozy little honey-house where surplus fixings are stored, and where the extracting was done this fall. There is a chimney with a fireplace or stove, and during warm weather there is running water from a pipe intended originally for hosing the garden. The shanty, as we call it, is 8 x 12, and has an asphalt felt roof and concrete floor. The tar paper from the old roof was laid down on an inch of sand, and the concrete on top of that, so the place is positively dry. There was no frost on the windows all last winter. This season I found one colony queenless in April. One colony swarmed late in August, and five days later an after-swarm was put back. The prime swarm was reunited before cold weather, so that my number remains at ten, which I consider all that the locality and my time will warrant. One colony was found by the inspector in May to have American foul brood. It was treated by the McEvoy plan, and at the close of the season I took about 30 lbs. of extracted, which was not so bad after all. One colony I used for experimenting, but it gave about 25 lbs.; so that, practically, only seven of the ten can be credited with the 450 lbs. extracted, and 65 salable sections which I harvested. Owing to bad weather when fall flowers were blooming all colonies were very light in winter stores. One or two had practically nothing, so 120 lbs. of granulated sugar have been fed, and I am waiting anxiously the coming of another season, when I may try my hand at queen-rearing in a small way.

Hoboken, N. J.



## Heads of Grain from Different Fields

### Bulk Comb Honey Brings 20 Cts. a Pound

I reported to you last April that I had saved all my bees but one colony, and that I had ten colonies in fair condition. I will tell you briefly my 1912 experience. I worked for both extracted and comb honey, or, in other words, I made all bulk comb honey out of my crop. I used the shallow frame for comb honey and the regulation size for extracted, and made a combination that seems to please my customers. I put it up in 2½, 3½, and 6 lb. buckets, and get 20 cts. per lb. for it. I closed the season Sept. 15, and I invoiced as follows: 1215 lbs. of honey, and my bees increased from ten colonies to 23, and all in fine condition for winter, either mild or severe.

### TELESCOPE COVERS FOR WINTER PROTECTION.

I have adopted the telescope cover for winter protection that looks as if it would be a success. This telescope is 30 inches wide, long, and high, covered with rubberoid that slants to the rear with about 4 inches drop. This is stuffed, rammed, and crammed with forest leaves until it seems as if no cold air could get to the hive except at the front that faces east.

I am not prepared for cellar wintering, and do not believe I would swap my chances, as my bees are now fixed for a bee-cellar if I had one convenient. I feel reasonably sure that if I could save my bees from freezing such a winter as last, with only fair protection, that I shall have no trouble with them in any winter, as I now have them snug and warm. I put them away Oct. 2, and shall try to forget them until April 1, so far as care is concerned. These telescope covers cost me 63 cts. each; and as they will last as long as the hive I feel that they are not expensive.

### GOOD OUTLOOK FOR ANOTHER SEASON.

I was surprised at some of the reports from Indiana regarding the small crop of honey. It seems to me, as an amateur, that 121 lbs. per colony, spring count, was not so bad; and had I expected such a flow from white clover I certainly would have been better prepared to receive it, and no doubt could have increased this amount considerably. From the white clover that we now see all over this part of Indiana, it looks as if next year would be a repeater.

Southport, Ind.

J. F. KIGHT.

### A Missouri Beginner

One day in September, 1909, I returned from work earlier than usual—about 3 P.M. My back yard seemed full of bees. I proceeded at once to get out the garden hose and make rain for those bees. It settled them all right, but in a bad place, in the midst of an old grapevine that had not been pruned for years. I had an old copy of "Facts about Bees," so I hunted it up and hurriedly consulted its pages.

About the first thing I saw was in regard to using smoke to subdue cross bees. I knew those bees in my back yard were cross, by the way they flew round and round, and kept up such a loud hum. So I made a smoker by wrapping cotton rags around the end of a ten-foot piece of gas-pipe. The only thing I could find for a hive was an empty box about half as large as an eight-frame hive.

By pushing it with my smoker, I got it under the grapevine, and in position to receive the swarm; but how to get bees out of that mass of vines I did not know. I lighted my smoker, and by blowing through the gas-pipe I could make plenty of smoke. The smoke only scattered the bees among the vines. As a last resort I swung my smoker high in the air and aimed a smashing blow at one side of the cluster.

Every bee went to the ground with a thud, and soon ran into the box (I guess they were glad to go anywhere by that time).

I now read the booklet more carefully, and discovered that bees should be fed in the fall if short of stores, so I went to the corner grocery and bought a pound of honey. I put off giving it to them that evening.

The next day was Sunday. When I went out to look at the bees there were none in sight. I waited a few minutes; still nothing doing. I carefully turned up the box, finding one dead bee under it, nothing more. We had honey for Sunday dinner. My wife and neighbors had the laugh on me; but I had a well-developed case of bee fever.

The next spring I bought a two-frame nucleus in a Danzenbaker hive.

The years 1911 and 1912 have been poor ones in this vicinity; yet my two-frame nucleus has increased to two strong colonies that have given a fair amount of surplus each year.

Kansas City, Mo.

EDW. G. SMITH.

### A Simple Plan for Frame Wiring; Efficiency without Expensive Equipment

I have often noticed in the bee journals mention of devices made especially for wiring frames—in fact, some of them rather elaborate. As the following plan is so very simple and yet extremely practicable it will perhaps be of assistance to some who are doing this very necessary work in a roundabout way.

It might be well to begin work with the frames out of six eight-frame supers, as a convenient number to handle at one time and to pile them on the table in front of you at either the right or the left. It is understood, of course, that they have been punched the requisite number of times in each end. For a seat, use a couple of empty bodies on top of one another. This will give you a rest for your feet, and will overcome the feeling of being perched on a fence, besides putting you on a proper level with the table. Your knees will be well up in front of you.

Take a frame; place it endwise with the bottom-bar up between your knees. The spool of wire should be slung around your waist with a short piece of the wire itself. This is the outstanding feature. The spool will lie in the hollow above the leg at the waist line, and the friction will keep it neatly coiled, and yet permit of free unwinding.

As yet your two hands are unoccupied, and can be used to the best advantage—i. e., in threading the wire back and forth through the perforated end-bars. Have a pair of pliers on the super between your knees for cutting the wire when enough has been pulled off. Go through the whole lot of frames with this operation, simply giving the wire a bend around each end-bar, and then come back again to make them taut, the latter operation permitting of a rest to the knees as you now hold the frame side-wise between them, with the end-bars alternately up; and the loose ends of wire are best fastened by shoving them through the hole a second time and turning it round and round the horizontal wire close to the end-bar. No hammer or nails have to be used, and considerable time is saved.

Working on a suggestion of Mr. Morley Pettit, we used a fourth wire in our frames, placed about three-eighths inch below the top-bar. This wire catches the upper extremity of the sheet of wax, holding it close to the top-bar; and in every case where the supers were placed on colonies in the evening, and the bees allowed to run up from below, they were fastened securely by the bees.

The time of day does not make much difference; but in hiving swarms it would be best to use sheets

with wedges, as the bees will be piled on the foundation in great numbers all at once, and the heat they create is likely to bend the wax away from the top-bar and make a mess of things. I have gone a step further this season in wiring, and used only three wires, the third one being next to the top-bar, and the other two dividing up the remaining space. I feel sure that if used in the right way, the bees will do the sticking without pulling the sheets out of true. I have seen them even cut small holes in the foundation further down to get wax without secreting it. Evidently their first thought when entering a newly added super over the brood-nest or extracting-body is whether the foundation is secure. The top-bars used should be plain  $\frac{7}{8}$  or  $\frac{5}{8}$  inch. Having on hand a large stock of the bars with grooves for wedges we made use of them, but did not insert the wedge—an operation which takes more or less time.

Kirk's Ferry, Ont.

H. HARLEY SELWYN.

### One Month's Record of a Hive on Scales

The following is a record of two frames of bees shaken on May 3, 1912, with a golden Italian queen introduced the same day. No brood was given.

#### WEIGHT OF HIVE AND CONTENTS.

	7 A. M.	12 M.	6 P. M.	INCREASE
Sept. 3		22 lbs.	27 lbs.	5 lbs.
Sept. 4	26 lbs.	26 "	31 "	5 "
Sept. 5	29 $\frac{1}{4}$ lbs.	30 "	33 "	3 $\frac{3}{4}$ lbs.
Sept. 6	32 "	31 "	31 "	1 lb. loss; cold rain
Sept. 7	31 "	31 "	38 $\frac{1}{2}$ lbs.	7 $\frac{1}{2}$ lbs.
Sept. 8	36 "	36 "	43 lbs.	7 lbs.
Sept. 9	40 $\frac{1}{2}$ lbs.	40 $\frac{1}{2}$ lbs.	46 $\frac{1}{2}$ lbs.	6 "
Sept. 10	44 lbs.	44 lbs.	51 lbs.	7 "
Sept. 11	48 $\frac{1}{2}$ lbs.	49 "	54 $\frac{1}{2}$ lbs.	6 "
Sept. 12	53 $\frac{1}{2}$ lbs.	53 "	54 $\frac{1}{2}$ lbs.	1 " rain; 3 P. M.
Sept. 13	54 lbs.	54 $\frac{1}{2}$ lbs.	60 lbs.	6 "

It is to be noticed from the above, that, with the exception of the 5th, 11th, and 13th, all of the daily increase in weight came in from noon to 6 P. M., and that which came before noon on the 5th, 11th, and 13th, was very small. Is this to be taken as showing the rule or not?

Then, again, the sum of the daily increase is 54  $\frac{1}{4}$  lbs., while the net is but 38 lbs., or showing a loss of 16  $\frac{1}{4}$  lbs., which I attribute to evaporation of the nectar and the slight difference in the weight of the bees at 7 A. M. and 6 P. M. The daily loss from 6 P. M. to 7 A. M. was from  $\frac{1}{2}$  to 2  $\frac{1}{2}$  lbs. On the 6th, there was a net loss of 1 lb. from 7 A. M. to 6 P. M. There was a cold windstorm all day which kept all bees at home, and forced evaporation with nothing coming in.

Sandwich, Mass.

E. B. HOWLAND.

[It is possible that the bees were getting this nectar from some source that yielded mainly in the afternoon; but we think it is more likely that the great number of field bees absent from the hive at noon would counteract the increase in the weight of the honey.—Ed.]

### Proper Size of Entrances; Mice in Hives

This season my bees made a net surplus of more than \$8.00 per colony, average, spring count, and increased 50 per cent. They are now packed for winter. Most of my hives are home-made, some single-walled, some two-story, and some one-and-a-half story. The top stories telescope one inch down over the brood-chamber, and rest on a  $\frac{3}{4}$  strip.

I laid two rows of corn-cobs across the frames to give a passage from one side to the other, then put on trays of planer shavings that rest on the top of the brood-chamber.

Last winter the mice got into several hives at

the entrance, and nearly ruined the colonies. The hives being home-made, the entrances were from  $\frac{3}{4}$  to about  $\frac{1}{2}$  inch. So this time I fitted in pieces that closed the entrances to  $\frac{1}{4}$  by about 12 inches. Do you think that will give them enough ventilation? Our weather prophets predict a cold winter because the corn shucks are thick, etc.; but I do not take much stock in it, and hope they are wrong. We have a fine prospect for white clover at present. My honey is about all sold locally, at 15 cts. for comb and 10 for extracted, net.

Walton, Ky., Dec. 5.

J. G. CRISLER.

[While it is difficult to give a definite answer to the above that will fit all cases, we should say that an entrance  $\frac{1}{4}$  x 12 inches should give more than enough ventilation for the average colony.—Ed.]

### How Bees Eat Dry Cube Sugar in Winter

Since my letter in regard to wintering bees on dry cube sugar appeared in GLEANINGS, Oct. 15, p. 663, I have received several rather sharp calls along one line—*viz.*, that sugar, before it can be used for wintering bees must be made into a candy or syrup—that it is impossible for bees to live on dry sugar.

Cube sugar will absorb a large amount of moisture from the air in a hive during frosty weather, and at the same time will retain its shape and will not become sticky or runny. After it has absorbed a certain amount it refuses to absorb any more. When in this condition the bees readily work on it.

There is a slight loss in this way of feeding, due to the fact that the bees eat the cubes down to a size where they will fall through between the frames. During the spring housecleaning fever some colonies will carry these small pieces of sugar out of the hive, while others will work it over till there isn't a crumb to be found.

It is possible for bees to winter on dry cube sugar placed above the brood-nest.

Newark, N. J.

CHARLES S. SHARP.

### An Explanation

It seems, p. 755, Dec. 1, that Dr. C. C. Miller doesn't understand me. I do not intend to convey to the minds of the readers of GLEANINGS the idea that they should develop a taste for honey they do not like. What I meant is, that honey should be called by the name of the blossoms from which it is gathered, leaving to the judgment of the consumer which honey he prefers, hereby giving all honey, regardless of color, an equal selling chance. We do not buy potatoes as blue, red, or white, neither sugar nor any other staple, except tea. We name them by their kind. We all have our preferences, regardless of differences in opinion. I hope this will set me right.

Cincinnati, O.

HENRY REDDERT.

### Dandelions and Buttercups in December

I have 35 colonies of bees, and at 9 o'clock in the forenoon of Dec. 6, this year, I was in my yard, and the bees were flying all about me, like summer—something quite unusual for December in this latitude. On our hillside we can now find dandelion and buttercups in blossom. Clover is looking fine, and we hope to be numbered next year among the first in the way of white clover in the comb.

Cherry Valley, N. Y., Dec. 9. WAYNE SNYDER.

### 28 Colonies Increased to 76

I successfully wintered 28 colonies, and have increased them to 76 good colonies, and harvested 3300 lbs. of honey, which is not so bad for a beginner.

Lowville, Ont.

GEORGE BRADT,



# Our Homes

A. I. ROOT

The sabbath was made for man, and not man for the sabbath. Therefore the Son of man is Lord also of the sabbath.—MARK 2:27, 28.

## WHAT SHALL WE DO ON SUNDAY?

The first thing I read in your journal is *Our Homes*, therefore I value it most. I wish Mr. A. I. Root would some time give us a talk on what we *should* do on the sabbath, as he often tells of what we *should not* do. As I am a beginner in Christian Endeavor work I am looking for information to help the society here.

Lakeside, Cal.

G. E. PHILBROOK.

My good friend, the Bible enjoins us to remember the sabbath day to keep it holy, and therefore the first thing to consider is the word holy—what does it mean? How did the Savior spend his sabbaths? For one thing, he went to church. We read in the fourth chapter of Luke, sixth verse, "And as *his custom was*, he went into the synagogue on the sabbath." Again, we are told, I think repeatedly, that he healed the sick on the sabbath, and so we are told two things—he attended church without fail, and he also ministered to those who were sick and suffering on the sabbath as well as on week days. When the Pharisees complained about his manner of keeping the sabbath, he asked who it was who would not go to the rescue of a sheep or an ox that had fallen into a pit on the sabbath. If I did not attend regularly the preaching on the sabbath, and also Sunday-school, I should feel guilty; and I do not see how any follower of the Lord Jesus Christ can be excused for absenting himself from some place of worship on Sunday unless it is next to impossible to get there; and I should not be particular what church it was. You are pretty sure to hear a good sermon in any of the evangelical churches, and you are pretty sure to be among a lot of good people who love the Lord whenever you go into any Sunday-school.

While I do not believe in promiscuous visits on Sunday, I think it is right and proper that you should do what you can to help or relieve sickness among the relatives or immediate neighbors. If you know of any thing you can take them that will cheer them up, say fruit or flowers, by all means do it, even though it is Sunday. If you have reason to think that the sunshine of your presence will do them good, do that. Carry something to read to those who are unable to read; and if opportunity offers, read the Bible; and it is a nice thing also to sing a hymn to those who are lonely and are glad to see you. If you can not sing a hymn, get right at it and learn some simple hymn. The Sunday-school is a

splendid place to learn such hymns. Our recent hymn-books contain gems of thought as well as music, and are wonderfully cheering to one who is sick and discouraged.

Now, there are some people I know who think they must sit at home and read when not at church. I do not agree with this. One of the most important things in order to feel well, and especially if I want to keep well, is to have exercise in the open air, even if it is Sunday. If I were a farmer, and had live stock and crops, I would go out over the farm and "count my blessings," see how much I have to thank God for, which I did not think of during the week. Give the domestic animals something they are fond of—a lump of sugar or an apple to the horses and colts. Make them feel, as well as everybody else, that Sunday is the day to have a good time. Get acquainted with your domestic animals. I need not tell you, for I have said it so many times, that a hen lays more eggs when she gets well acquainted with you, and feels happy every time you come around. Sunday is a good day, too, to encourage a *closer* acquaintance. Above all things, look at the flowers; and do not forget to raise your thoughts to the great Giver of all things in thanksgiving and praise. Like the animal that has fallen into a pit, as mentioned by our Savior, there is almost always something to be done for the relief of suffering in your community or neighborhood among the people or among the domestic animals.

Of course, Sunday is a time when you have more leisure to read. On Saturday I usually have a great mass of periodicals—journals given to farming, gardening, poultry, and many other things; but these are all put away just before I go to bed Saturday night; and Sunday morning, when I first get up, I go for the *Sunday School Times*. Several years ago I said if you can afford only one periodical besides your town paper, let it be the *Sunday School Times*; and I have no reason to change my mind in regard to it. It is the best religious periodical I know of—at least of its kind. After the *Sunday School Times* I would suggest periodicals published by your own denomination. We take the *Chicago Advance*, which is a Congregational organ; but I do not feel as free to read it on Sunday, *every bit of it*, stories and all, as I do the *Sunday School Times*.

I want to speak once more about our domestic animals. I have heard of farmers who put off salting their farm stock till Sunday because they would have *more time* on that day. I do not believe that that is exactly the thing to do; but at the same time we should bear in mind that a merciful man is merciful to his beast. I do not know but it would be right and proper for a Christian man to look all of his domestic animals over with a little more thoroughness on Sunday than on any other day—look after their happiness, and see that their water and feed are just what they ought to be; and, if it is a possible thing, teach them so that they will look forward to it and expect it, and to expect, too, that Sunday is a day of rest.

There is one thing I like about automobiles. They permit the whole family to get to church without depriving the tired horses of their rest. But when I say this I recognize, sometimes with sadness, that automobiles too often go in some other direction than toward the church on God's holy day. Sometimes after having been to church they take long spins somewhere else. The different automobiles that Mrs. Root and I have owned have never been used except to go to places of worship or perhaps to call on near relatives. Until my mother died it was my practice all my life to make her a little call every Sunday afternoon, and I did this before I was a professing Christian. Very likely these Sunday-afternoon calls had much to do with the fact that I finally accepted my mother's religion and her Savior. Since her death I have been in the habit of calling on my sister, for only one is left now out of four.

And now, my dear brother, I have given you a pretty good account of the way in which I spend my Sundays. Perhaps I should add, however, that whenever I am induced, during these calls I have mentioned, to talk about business or week-day duties, my conscience is not as clear and as devoid of offense toward God and the Master as when I have tried to keep in mind the command to keep the day holy. Perhaps we can not do better in closing than to quote the 13th and 14th verses of the 58th chapter of Isaiah:

If thou turn away thy foot from the sabbath, from doing thy pleasure on my holy day, and call the sabbath a delight, the holy of the Lord, honorable; and shalt honor him, not doing thine own ways, nor finding thine own pleasure, nor speaking thine own words, then shalt thou delight thyself in the Lord; and I will cause thee to ride upon the high places of the earth, and feed thee with the heritage of Jacob thy father; for the mouth of the Lord hath spoken it.

#### SHOULD MURDERERS HANG?

I have just read Mr. Thomas Dewees' letter on page 459, July 15. It is a good letter, and breathes a Christian spirit right through. All the same, I am firmly of the opinion that it is necessary to hang the murderer as a deterrent to other evil-disposed persons.

I have read a lot about the statistics of the United States, and there is no doubt that the crime of murder is increasing there to an appalling extent. Butler, the man who murdered and buried his victim, Le Weller, within a quarter of a mile of one of my bee-farms on the Blue Mountains, was brought back from San Francisco, and hanged; and there is no doubt in my mind that it had a salutary effect on others of a like stamp. There are some men who are simply human tigers; and to imprison these brutes for life, which means here really fifteen years, and then let them loose among the people again, is, I think, criminal.

A little time ago a man in Sydney, named Phillips, ravished and murdered his nine-year-old daughter while he was under the influence of drink. He was condemned to death; but the ministry in power here at present will not hang, and they commuted the sentence to imprisonment for life—that is, fifteen years.

A little while ago a young man only twenty years of age, a fine-looking fellow, only just married, murdered a man named Travius. He traveled thirty miles to commit this murder. He made arrangement with his victim to meet him in his own home at 8 o'clock in the evening, brought a plow-coulter with him, and a razor; and while they were talking together he suddenly struck his victim over the head with the coulter and then cut his throat. He was sentenced to death, but the ministry commuted the sentence to life imprisonment—fifteen years. Now, this young fellow is a type of the human tiger. He was not drunk. He simply wanted money, and he murdered a man for \$250, and then cleared off for Melbourne and enjoyed himself with his wife.

Just a little time after this, a half-caste committed an assault on an elderly woman in Sydney; and the very first thing he said when the police caught him was this: "They can't hang me; they did not hang Phillips." You can see how he reasoned. At one time they used to flog people here for certain crimes. Then the public cried out at the futility of the practice, and flogging was abolished. Some time afterward an epidemic of garroting broke out; and the ordinary punishment of imprisonment proving no deterrent, the flogging law was brought into use again. The magistrates sentenced the culprits to six months in jail and two floggings of fifteen lashes each. Still the garroting continued. So the magistrate sentenced the man to one flogging and then to be turned adrift among his friends. The lockup where the flogging was to take place was surrounded by a crowd of his friends and sympathizers, and they could hear him howl as he got his punishment. Then he was pushed out among the crowd, and his friends had a chance of examining his back, and could get a fair idea of what flogging meant. Brutal? Yes; but it stopped the garroting. Is not garroting brutal? Is not murder brutal? and is it not necessary to deal with these brutes as brutes? Murder is on the increase in New South Wales on account of not hanging, and I believe it is so in the United States also, for the same reason.

\*MAJOR SHALLARD.

South Woodburn, Australia, Sept. 1.

While we are giving place to the above we also submit the following, which was furnished by our stenographer, W. P. Root, for our *Medina Gazette*:



## THE RIGHTFULNESS OF CAPITAL PUNISHMENT.

As I write these words, Sept. 23, preparations are being made in Charlestown, Mass., for the execution, by electricity, of the third man, in the same chair, in the space of just four months. The first was Rev. Mr. Richeson, who ruined a girl in his flock and then induced her to swallow a capsule filled with cyanide of potassium. He was executed May 22, after a full confession, "for Jesus' sake," as he put it.

A week ago a Mr. Spencer was executed in the same chair for playfully shooting a lady schoolteacher when trying to rob her of her money.

The case under way is that of Mr. Chester Jordan, of Springfield, Mass., who murdered his wife and cut her body to pieces as did Mr. Crippen, the Detroit dentist, in London.

The case of Mr. Beatty, of Richmond, Va., who shot his wife while she was in his automobile, a year ago, and for which he was executed on the 24th of last November, is still fresh in our minds.

This whole business is sad indeed; but some seem to see no sadness in it except the ending. The sadness is in the thought that the three men first mentioned, and probably all five, singularly gifted, mentally and physically, should have been so destitute of all moral perception as to choose deliberately a course of action which they knew would haunt them to the grave, even without detection, but which, after all, they knew they could not escape. These men had it in their power to make their names honored for all time as did the late Wm. Booth, of the Salvation Army; but instead they shook a dead tree to get the apples of pleasure, and pulled down on their own heads the fire of Sodom. In each of the five cases the matter was rendered many times worse by the fact that the victim was a helpless woman; for, bad as is the murder of a man by anybody, the sand-bagging and shooting of a woman is the limit so far as depravity is concerned.

During the late campaign some literature was sent out here, arguing against the execution of such artists in human slaughter as I have mentioned. I am glad the law will stay as it is. Statistics in such cases prove nothing by saying that Michigan has no executions and only a few murders, while Ohio has more. A difference in nationality would account for all that. Cleveland has a foreign population of fully 400,000 and Cincinnati about 250,000, while Toledo, Columbus, Dayton, Youngstown, and Akron would run the number up to all of Michigan's population, the latter being composed largely of the most progressive people from the eastern part of the country. But even the Michigan law does not prevent murder there.

Unless we know how many men have checked a murderous thought when a possible rope has dangled before their eyes we can not decide those questions by statistics; but it is easier to believe that a man will refrain from murder if he knows he will probably be hanged for it, than to suppose he will abstain from it with only a penitentiary sentence back of him and a probable early pardon.

The rightfulness of inflicting death by law is questioned. That depends on our standard of right. I assume it to be the Mosaic code. Alfred the Great, a thousand years ago, made the 20th, 21st, and 22d chapters of the book of Exodus the basis of common law in England, and it has been so regarded since that time; and that basis is also the standard of law in the United States. As a clear conclusion from that law, or a comment on it, we read in Numbers, "If he smite him with an instrument of iron, that he die, he is a murderer; the murderer shall surely be put to death." That law was nowhere deprecated by Jesus Christ, nor does it antagonize his doctrine. He came to

preach to men as individuals; but he left society, organized under law, to bring down its own tremendous malediction on those who take human life when in the commission of crime.

Of course, some murderers should not be executed. If it could be proved positively that the present incumbent of our jail slew his wife, his apparent mental condition would seem to call more for confinement than rope; or when men get into a row over a line fence, or several engage in a wholesale carving rumpus, and one gets laid out, it is impossible to say who is wholly to blame. But when we consider such midnight assassinations as that of the Coy family here, and the devilish cruelty of Blinky Morgan and his gang as he held Marshal Frazier up here, in December, 1886, while the villains blew up our county treasury, and afterward shot the policeman dead, near Ravenna (for which he was hanged), the subject of mercy ceases to be mercy when dealt out to those who never showed any, and despised it when they saw it. As it is, only about one murderer in eighty is put to death in this country, as our criminal courts are so defective in their operation—vastly inferior to those in England.

Still, I am greatly opposed to capital punishment; but I am not so much opposed to it as I am to the cause and necessity of it; and it can be done away with, with neatness and despatch, as soon as we get the consent of the gentlemen sirs the murderers themselves.

W. P. ROOT.

As if to add emphasis to the communications above, the papers tell us that Shrank, the would-be assassin of Mr. Roosevelt, followed him from New York to Milwaukee, through about ten States, in order to do the deed in a State where capital punishment is not inflicted. This shows conclusively how such men reason.

## "PROFITS" AND "DOLLARS."

*Dear Friend:*—To me GLEANINGS is one of the best journals I ever read, taking it from cover to cover. To my mind I never read its equal. I am 68 years of age; 52 years of that time I may say I have been a member of the Methodist Church, in good standing, so you see I can take great pleasure in your Home talks.

In the issue for Oct. 15 there is considerable attention given to temperance. In it and other issues you combat earnestly the evils of intemperance, but you seem to me to wrestle with the effect, instead of the cause, of that unnamable evil.

I am not going to lecture you, for I am not able, because I believe you are doing your part to keep the light of truth and humanity burning on the altar.

1. What would happen if congress and the legislatures would pass laws to prevent any profit being made out of the liquor business, tobacco business, or any other evil business?

2. How many people would engage in those vile businesses, if there were no dollars to be made out of them?

Nelson, B. C., Oct. 27. GEORGE FLEMING.

My good friend, I thank you for your kind words; and my opinion of the points you make, 1 and 2, is that you are exactly right. But what are we going to do? How can one consistently vote for Chafin after his unkind and unchristianlike fling at the Anti-saloon League because they have happened to differ with him in regard to meth-



ods? See Special Notices for Nov. 1. I am certainly heart and soul in favor of removing the temptation by cutting off this profit from the business. I have already mentioned that in Cuba, where I spent one winter, intoxicating liquors were sold at almost every country grocery. A man could get enough whisky for a penny to

make him drunk, and a child could get a cent's worth of whisky in a tin cup; but intemperance there in Cuba was nothing to be compared with what it is here in the United States; and especially was that the case before "we, the people of the United States," carried over to the Cubans our American beer and other liquors.

## Poultry Department

### FLORIDA FOR POULTRY.

*Dear Mr. Root:*—Many letters have been received, asking if Florida was good for poultry. These and other inquiries about the country have gone unanswered because the writer was too busy to reply to so many. Perhaps GLEANINGS will be kind enough to carry an answer that will reach and relieve all these anxious ones. After three years of careful investigation I can say, without reservation, yes. Below are some of the advantages. Land is cheap; housing costs almost nothing; no long hard winters call for expensive houses and intensive care. Prices are good. If one will use open roofless pens or houses in which to keep his birds they will be healthy and free from vermin. They can be hatched at all seasons of the year; but I suggest that one cut out the rainy season. Now is a good time to start the hatching. Yesterday morning as I passed a neighbor's I caught sight of a bunch of turkeys, and remarked that I would be around Thanksgiving day. He said they were all gobblers, and would need to be eaten that day or Christmas. But he added that he had hopes of perpetuating the flock, as the old hen was faithfully incubating a batch of eggs. Think of it, you frost-bound people—young pullets in November! The weather is favorable. They should do well.

A surveyor is away from home so much that he can't raise poultry, no matter how fond he may be of that work. I can get more pleasure watching a brood of chicks ("biddies" the Floridian calls them) than I can by watching a championship game of ball, and I have been a fan over 40 years. I must follow my profession, and that cuts me out of a lot of fun with the biddies. A man must live with his flock every day of the 365 if he would make it pay, and a surveyor can't do that. My work called me to Lee County three weeks of September, and fifteen days of October were spent on another job besides many single days away from Parish. So I cut out the practical side of chicken culture and confine myself to observation. Eyes and ears are open all the time for all facts that bear on this interesting subject, but I claim to be only a "looker on."

The chief drawback down here is the cost of feed. Long hauls from the North make heavy freight bills. The middleman comes in for a big profit. Of course, feed is high; yet all the poultrymen of whom I have knowledge buy it rather than raise it. Mr. Stevens, at Alva, keeps 600 that roost in his orange-trees and feed on dry mash from old boxes. He spends not one per cent on equipment, but buys all his feed. Mr. Throop, at Enterprise, is in the business big. He has 2000 hens the year round, that clear him at least \$2.45 each per annum. He says it is better than a grove. He raises no feed, preferring to give the time to personal care for his flocks. The houses are cheap low sheds with old fertilizer-sacks for sides. They cost scarcely a hundred dollars for the whole outfit. A writer who makes his living at Clearwater out of his White Leghorns, said in a recent number of the *Florida Grower*, that he bought all his feed last year and cleared \$1.40 per hen.

This man goes in for more expensive housing than the others. He writes that he "would as soon think of sleeping with a leaky roof over his head as over that of his chickens." Fine sentiment, that, but only sentiment. Down here the roofless house is the kindest place in which to keep your pets. There they are healthier, and freer from insect pests than when under roof. There are no kinder people than Mr. and Mrs. W. A. Halsey, of Terra Ceta Island. They shut their chickens up in roofless coops or houses the year round because they are healthier and more comfortable there, and lay well. Last summer, when everybody else's hens were on a strike, and no eggs could be bought in the country stores, theirs were shelling out the hen-fruit, keeping them supplied with all they could use, and they never stint themselves.

The Halseys were formerly in the poultry business, but now have only enough for their own table. They live off of the returns from 700 grapefruit trees on their ten acres, which nets them \$5000 or better per annum. Mr. H. came to Florida 25 years ago from Chicago. His experience was that of a city man. He knew nothing about farming. Having no capital, he worked at day labor as he could find something to do. When he got a chance he started to raise poultry. He saw that those who let their hens roost in the trees with a piece of old stovepipe about the trunk to keep the varmints away had no trouble with vermin and disease, and those who built houses for them had no end of trouble. Therefore he adopted the roofless house. Later he took up with the bottomless coop resting on the ground, which the poultry papers of those days were suggesting. It was the Philo system long before Philo hit upon it as the way to make money. In this case it was adapted to the conditions where it was to be used, which is the secret of success in every business, in every clime. Adapt yourself to your condition, and stay with it, spells success everywhere.

The Halsey plan is a light-weight bottomless coop set on Bermuda-grass sod, and moved every two or three days. There is an orange-box for a double nest in one end of the coop, which last is 8 feet by 8 feet on the ground. Its two ends are shaped like a capital A. It has two cross-pieces that strengthen it and serve as roost. It is enclosed with wire netting. Twelve hens spend their whole laying experience in it and enjoy it. As I told above, they lay well, much better than those that run out on the neighbors' land, and they are never in the way in the truck-patch. Fresh water is supplied, and they get a quart of mash in the morning, and a pint and a half of wheat in the afternoon, to each coop. During the trucking season they get plenty of lettuce. The rest of the time, grass furnishes their green food. It is not unusual to see the Philo system in use here, just as its author directs for city backyards and house-tops in the North. There seems to be no effort to adapt the method to conditions. Proper adaptation to location and surroundings is needed in all things. When the farmer comes down from the North he must forget what he knows, and

learn over again if he would get the best results in the quickest time. Then he needs to bring either enough money or enough time and ability to work so as to carry him through several failures. As a rule the road to success begins on the failure route, and in many cases it is a long way to the proper turn.

As many are thinking of Florida I may do them a service by telling two stories—one of them of the friends whose method with poultry has just been set forth, the other of their neighbor and uncle, Mr. Chas. Blood. It cost Mr. H. about twelve years of his early manhood to get a start here. He worked and struggled hard, but made little progress apparently. He was finding himself, and learning the growing of groves. Offered a job of caring for a grove, he went to Terra Ceia, a fertile island just north of the mouth of the Manatee in Tampa Bay. Having endured hardness, he was ready for his opportunity, and grasped it when it came. He found a good woman, one of the salt of the earth, and married. Then he made the first payment on ten acres. They built a shanty, and began the struggle for a home. He grubbed palmettos and stumps, grew truck, and cared for the grove of the non-resident. She raised chickens with his help; but all the time they were working for a grove as the goal of their ambition. They planted the seeds, grew young trees and budded them, and after a while they began to yield. Then they got on to Easy Street, and are now enjoying the fruit of their struggle. They bought the ten acres in 1899, 13 years ago. For about half of that time they have been getting a revenue from their grove, and for about five of them the revenue has been large enough to mean comfort. A quarter of a century, divided into twenty years of hardship and five of prosperity, is not bad, is it?

The most remarkable grove that I have seen in my rather extended travels over central Florida and the west side of south Florida belongs to the Mr. Blood mentioned above. There are thirteen or fourteen acres in his tract, with about 2000 grapefruit-trees on ten of them. House, barn, lawn, packing-house, and a pond occupy about four acres.

Mr. Blood is the apostle of intensive grapefruit culture. His trees are set  $14\frac{1}{2}$  feet apart, 200 to the acre. The old-time grove-grower sets them thirty feet apart, less than fifty to the acre, and for many years cultivates land that his trees do not fill, waiting for the time when, tall and stately, they will take all the space.

Mr. Blood believes in the present rather than the future, and wants the largest returns this year rather than a decade hence. As many trees to the acre as will take up the entire space in a few years, then all the water and fertilizer those trees will stand is his practice. The results are good. He began on Terra Ceia about seventeen years ago with nothing. His revenue by the time he had been there ten years was at least fifteen thousand dollars per annum. Since then his yearly average, clear of all expenses, has been fully that amount. Who can tell the value of an acre of ground that nets \$1500 annually?

He and his wife spent the summer visiting northern friends and relatives. For several weeks they were with a brother-in-law who owns a big wheat-ranch (two whole sections) in the valley of the Red River of the North. A large force of hands, with traction engines, gang-plows, and other up-to-date machinery make this 1300-acre farm very profitable. It is the ideal of modern farming; but our Florida friends prefer their thirteen-acre grove. They live easy, in the best climate in the United States, with no rush, and get more comfort and as much money as the big farmer. One acre of their farm is worth a hundred of the bigger one. Comment is unnecessary. The story speaks for itself. If one wants to know Florida's possibilities, there they are.

Please notice that these successful people learned the business through struggle and failure, and that their success came after years of waiting. Gold grows on trees here, but one must first learn how to grow the tree. Time, patience, hard work, grit, and many a disappointment are elements of life here as elsewhere; but the opportunity is great, and conditions favorable. Come and see for yourself.

Parish, Fla., Nov. 21.

F. M. BALDWIN.

#### SITTING HENS VS. INCUBATORS.

Our readers will remember that I have several times brought this matter up. Let me go over it briefly. Last winter I filled our incubator with eggs by standing them on the small end, and thus got in quite a few more than the incubator was made for, proposing to take out the unfertile eggs after three days. But that night I found a sitting hen, so I took fifteen eggs out of the crowded incubator and gave them to the hen. She managed in some way to have almost every egg fertile; but the incubator made only about two-thirds fertile. The experiment was repeated with like results. Finally our good friend Keyser, well known in poultry circles, announced that he took some eggs from the incubator at testing time, which showed no sign of fertility. He gave these to a sitting hen to "keep her going," but forgot about it, and in three weeks' time she hatched quite a few chicks. In other words, the eggs that would not show any sign of fertility in one of the best up-to-date incubators were, the greater part of them, afterward made fertile by the sitting hen. I found the same true with duck eggs. Sitting hens produce ducks from almost every egg; the incubator does it with only a little more than half as many. I submitted this question to incubator men and others; and I think the general verdict, although sometimes reluctantly given, was that a sitting hen is possessed of some "trick of the trade," or whatever you may call it, that beats, if not *all* incubators, the greater part of them, in getting the germs in the egg to start. In my investigations I notice that the eggs under a sitting hen have a greasy or oily appearance not found on eggs in the incubator; and a writer in the *American Poultry Advocate* for June, last year, has quite an article on the matter, from which I clip the two following extracts:

He believes that the oil on the eggs which are set under hens plays an important part, and goes on to say that some experiments have been conducted with a combination of the use of moisture, hen oil, and carbonic-acid gas; and that the difficulty was the absolute control of the factors. The few hatches have given great hopes of being able to accomplish something worth while when the control of these factors was learned.

The presence of more oil on eggs under hens than in incubators was brought out at the Oregon station. The amount of oil was also found to be



greater by seven or eight times when eggs had been incubated under her two weeks than at the beginning. By removal of eggs from the hens to incubators it has been found that the oil on the shell disappears in large part. In regard to the oil, Prof. Brown believes that it checks evaporation, since it has been shown that there is a greater circulation of air under the hen than in the incubator, while at the same time evaporation is less; but the oil may have other important functions that we as yet know nothing of. (Personally, I believe that the hen feeds the chicks in the eggs by the absorption of this same oil through the shell. An experiment proved to me that the hen does secrete something, whether oil or what not, which goes through the shell into the chick or egg during incubation. I took an egg from under a hen, which had been in process of incubation for nearly three weeks, and another from an incubator that had been in incubation for the same length of time. Both eggs were infertile and intact, and I broke them and fried them. I endeavored to eat the egg from under the hen; but the rank, strong garlic taste compelled me to forego the pleasure. The incubator egg had no disagreeable taste whatsoever. This is conclusive proof that the hen does do something for the chicks in the egg which the incubator does not; hence the reason why a hen generally hatches better than the incubator.)

This oil mentioned above is, no doubt, the oil secreted by the hen to smear on her feathers to shed water during a rainy time, and it is, no doubt, the same oil that we get out of a fat hen. Now, suppose we have a bottle of "chicken oil," and oil the eggs once or more when put into the incubator. It would stop evaporation, and prevent the egg from drying out, particularly when the incubator is not located in a damp cellar. You know how dampness has been highly recommended for the incubator room, even to keeping water on the floor. Who can tell us more about this matter? Has anybody tried oiling the eggs with chicken oil? I do not think we need to worry about its doing harm. The nicest lot of chickens, or about the nicest lot I ever grew, were from a lot of the muddiest eggs I ever saw. In fact, they were so plastered with mud I thought they would not amount to any thing, as I was too busy to wash them off. The hen hatched every egg with about the strongest chickens I ever saw. Now, if covering them with mud, or a sticky or clayey mud, such as we have here, did no harm, but, rather, good, then we have reason to believe that a little chicken oil applied every little while would not be a bad thing. Just one more suggestion:

A sitting hen sometimes if not usually pulls off all of her feathers where she touches the egg with her body. This naked body looks greasy and feels greasy. In fact, she squeezes the eggs up against this greasy body of hers with her wing. Have you not seen a sitting hen, when chased off the nest, carry an egg or two under a wing?

## TURKEYS, CHICKENS, AND BEES.

See these two clippings from the *Ohio Farmer*:

I notice in your issue of Nov. 2 an article concerning a "prolific turkey hen." Mr. Harris states that his turkey hen laid 115 eggs without stopping. I think I can go him one better. My mother had a turkey hen that began laying April 17, 1907, and laid her last egg Nov. 27, same year, making a total of 166 eggs, without attempting to sit, not even after thorough laying. She was of the Bronze variety. This is no fake, and if necessary I could furnish affidavit to that effect.

M. E. ROBINSON.

Wm. R. Lewis, custodian of the grounds and buildings of the Kansas Agricultural College, has ten hives of bees. The past summer Mr. L. took from one hive 180 pounds of honey. The average product of the ten hives was \$15 worth of honey, or \$150 for the ten hives. He figures the cost of looking after the bees to have been \$10, leaving \$140 clear profit. He devotes a few minutes to the apary daily. He says the secret of beekeeping, if there is any secret, is to do the few things necessary at the proper time. Put on a super just when it is needed. Know when a swarm is to come out, and be ready with a hive for it. Know how to detect bee diseases and how to combat them. Work carefully and steadily, and don't get excited.

First about the turkeys. Even if the above is very unusual, it reminds us that a strain of egg-producing turkeys (like Leghorns and Indian Runner ducks) is possible, yet, so far as I can learn, there isn't a "turkey ranch" in the whole State of Florida, and at the same time wild turkeys are in the woods, more or less, all over Florida. All the turkeys in the markets for Thanksgiving and Christmas are shipped in from Georgia and further north.

In regard to bees somebody has said that, while the feed bill for all kinds of fowls (especially here in Florida) is a big expense, *bees* "work for nothing and board themselves." This is, to a certain extent, true; but *once in a while* the beekeeper is not only without honey, but may be compelled to buy barrels of sugar to keep his hundreds of colonies from "going dead." The statement from the Kansas Agricultural College is interesting because it is not only authentic, but because it indicates what educated care accomplishes. And, by the way, is it not true that some of our experts *always* get a crop of honey, more or less?

Since writing the above I note the following, which I clip from the *Cleveland Plain Dealer* of Nov. 26:

20,000 TURKEYS TO TROT; LED BY TEXAS GOVERNOR, THANKSGIVING BIRDS WILL PARADE.

CUREO, Tex., Nov. 25.—Twenty thousand Thanksgiving turkeys will "parade" here to-morrow at Cureo's famous turkey-trot celebration which will last three days.

Gov. O. B. Colquitt and staff will lead the procession. Thousands of the turkeys were driven over land many miles, and this afternoon the incessant "gobble" was heard all over the city.

The turkeys will be shipped following the parade. They will go through the streets afoot.